
Risk Assessment in Design & Technology

Introduction

The Management of Health & Safety at Work Act 1992 (regulation (3)) requires every employer and self employed person to make a suitable and sufficient assessment of :

- (a) the risks to the health & safety of their employees to which they are exposed whilst they are at work; and
- (b) the risks to the health & safety of persons not in their employment arising out of, or in connection with, the conduct by them of their undertaking:

for the purposes of identifying the measures they need to take to comply with the requirements and prohibitions imposed on them by or under the relevant statutory provisions.

Where there are five or more persons employed the significant findings of any assessment must be recorded.

The management regulations (or MHSWR) were introduced to implement the European framework directive (89/4391/EEC) and also the Temporary Workers Directive (91/383/EEC) and came into force on 1 January 1993. They cover all work activities to which the Health & Safety at Work etc. Act 1974 apply.

The regulations should be regarded as an extension to basic duties on employers, self employed and **employees**.

The need for risk assessment is also implicit in other regulations made under the Health & Safety at Work etc. Act (such as, for example, COSHH, and the PPE regulations).

Your guide to the pack and how to use it.

The generic or general risk assessments have been written on the basis of equipment, processes and activities that are associated with work within a typical design & technology department workshop environment in a secondary school or college.

These assessments need to be considered within the context of your own particular working environment before you consider adopting them as your own.

Pages 2 & 3 provide you with a basic framework that is designed to assist you in 'undertaking risk assessment' and the following pages provide you with a completed example of a risk assessment showing how additional notes may be inserted or crossed out in order for the assessment to take into account site specific information, examples of record and data sheets and other general information to assist you.

Section 2 (from page 20 onwards) provides you with a bank of generic risk assessments.

The document is supplied as a word processor file so that you can adapt and modify the assessment if required. The file may be accessed through Microsoft Windows Word 6.

The management of risk assessment

A risk assessment can be thought of as an identification of all the hazards present in a given situation, workplace or process, and an estimate of the extent of the risks to health & safety that those hazards represent, taking into account any preventative or precautionary measures already in force.

The terms hazard and risk are used frequently in the regulations and therefore need to be defined before attempting to carry out any assessments.

The approved code of practice adopts the following definitions:

- a **Hazard** is something with the potential to cause harm;
- a **Risk** is the likelihood of harm being caused by a particular hazard. The extent of the risk should also take into account the severity of the consequences and the number of people affected should the potential harm associated with the hazard actually occur.

There are several different approaches which might be adopted in the workplace for carrying out a risk assessment. For example the assessments could be carried out by:

- looking at each activity which could cause injury;
- grouping hazards and risks, e.g. machinery, transport, substances;
- looking at each department or section;
- a combination of the above.

Whichever method best suits the organisation and/or management structure, a structured practical approach should be used, and all assessments must comply with the criteria 'suitable and sufficient'.

The approved code of practice suggests that to be 'suitable and sufficient' a risk assessment:

- identifies the significant risk arising from the work;
- enables the employer to identify and prioritise the measures which need to be taken to comply with the relevant statutory provisions;
- is appropriate to the nature of the work and remains valid for a reasonable period of time.

To be effective a risk assessment must take into account various factors, and in particular, when making a risk assessment the need for specialist or technical advice must also be considered along with consultation amongst those people responsible for carrying out the tasks.

The purpose of the risk assessment is thus to help schools to determine what measures need be taken to comply with their duties under the relevant statutory provisions. The risk assessment should guide your judgement as to the measures that should be taken to fulfill those statutory obligations and reduce the level of risk to within acceptable limits.

1. An assessment of risk is a careful examination of what, in your school, could cause harm to staff and pupils, so that you can weigh up whether you have taken enough precautions (or should do more) to prevent harm. The aim is to make sure that no one is hurt or becomes ill.
2. Risk assessment is about considering significant risks and should not be obscured by concentrating on trivial risks.
3. The important thing you need to decide whether a hazard is significant and whether you have it covered by satisfactory control measures so that the risk is reduced to low level.
4. Having identified a risk to Health and/or Safety, the employer has a duty to devise preventative measures and then to arrange for the 'planning, organisation, control, and monitoring of measures'. These steps must also be put in writing.
5. It is important that risk assessment fits within an overall framework for managing Health & Safety, and should include a departmental policy, the arrangements and organisation for implementing the policy and a method of monitoring the Health & Safety provision and safe working practices employed.

The risk assessment process, undertaking the assessment yourself

1. Look for the hazards.

Walk around your workplace and consider what could reasonably be expected to cause harm. Ignore the trivial and concentrate only on significant hazards. Consult with colleagues who also use the area and ask what they think. Manufacturers instructions or data sheets and accident, 'near miss' and ill health records can also help you to spot hazards.

2. Decide who might be at risk.

Think about people who use the workplace, staff, pupils, students and those who do not use it all the time e.g. visitors etc.

Include people who share your workplace.

3. Evaluate the risk arising from the hazards and decide whether existing precautions are adequate or more should be done.

Consider whether you have done all the things that the law requires e.g. guarding dangerous parts of machinery.

If the risk cannot be removed completely then consider how can the risk be controlled so that harm is unlikely.

If other employees share the work place then they must be told about the risks that the work or activity could cause them and what precautions you are taking.

4. Assess the level of risk. You will need to establish the level of risk posed by a particular hazard or hazardous operation giving it a rating of either High, Medium or Low risk. Most situations covered by the generic assessments are likely to be classed as having a High or Medium risk. See page 4 for further details.

5. Recording your findings.

You must record the significant findings of your assessment.

It is helpful to inform your Health & Safety 'management' by recording the control measures that you think are necessary in order to reduce the identified risk. A signature of approval by the Health & Safety Manager should be gained.

To assist you in processing information about when to undertake risk assessment a flow chart which identifies action points within the process is shown in fig 1.

Process of Risk Assessment

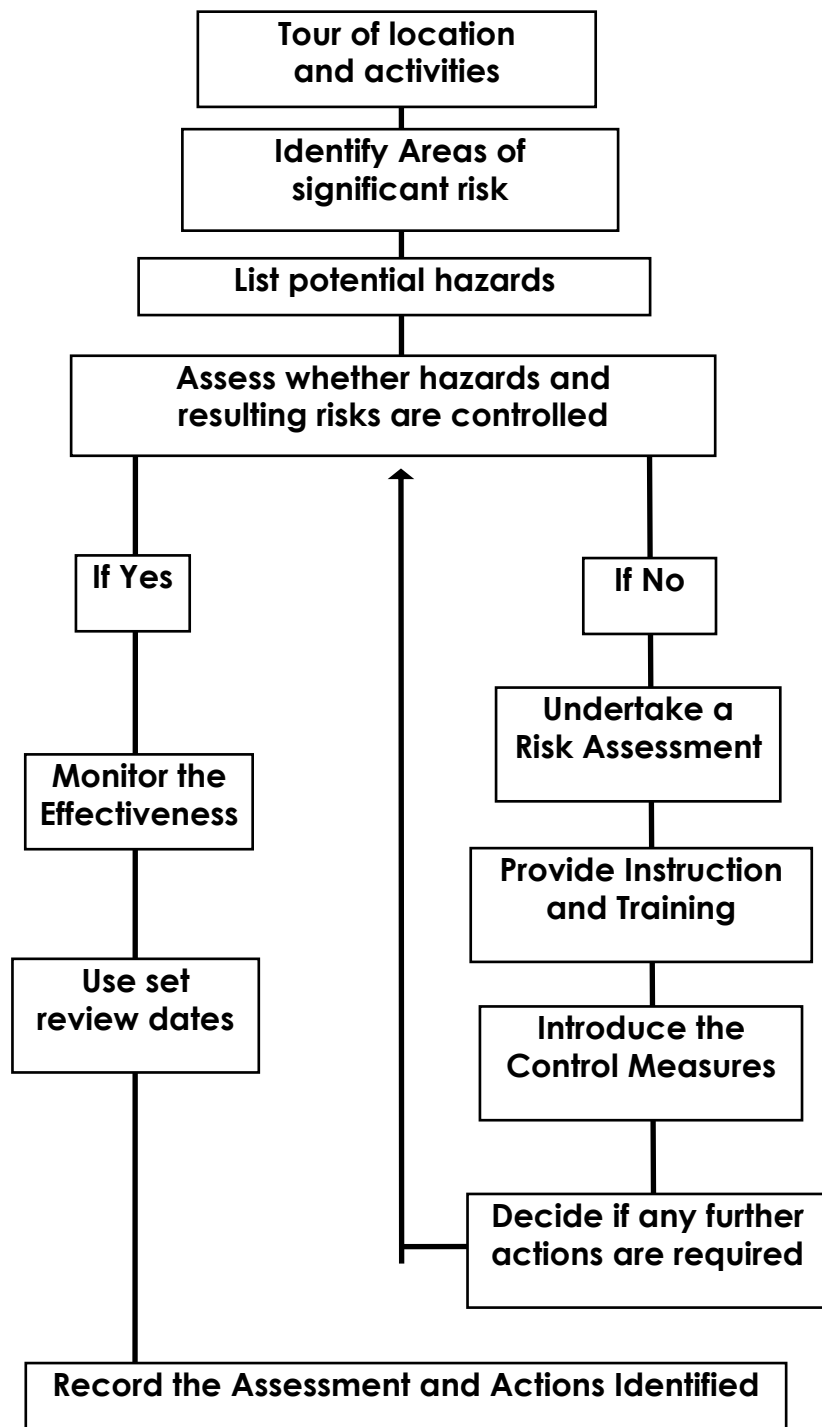


Fig. 1 The risk assessment process

Risk Assessment - Aide-memoire

When undertaking a risk assessment you should ask yourself whether the operation or process is concerned with, or affected by, any of the following:

Pupil group	Including age, ability and/or disability
Competency	Pupils, staff.
Electrical equipment	Fixed and portable, use, maintenance and test schedules.
Fire	Procedures, equipment, alarms, fire doors.
First Aid	Training, equipment, procedures.
Food safety	General hygiene, audits, storage monitoring.
Hazardous substances	Storage, use, COSHH.
Machinery and equipment	Procedures, repair and maintenance, PPE.
Manual handling	Lifting, holding, posture.
Noise	Exposure, exposure zones, action levels.
PPE	Availability, training, use and maintenance.
Staff training	Monitoring, competency.
Storage	Flammability, access, methods, COSHH, size, weight, racking.
Use of vehicles	Maintenance records.
Ventilation and extraction	Installation, maintenance.
Visitors	Contractors, site visitors, security.
Visual display units	Ergonomics, display
Working environment	Temperature, lighting, cleanliness, condition of floors and walls, access, egress, visual supervision.
Workshop hazards	Housekeeping, access, egress, restrictions on use of certain equipment.

Fig. 2 Risk Assessment Aide Memoire

Generic Risk Assessments for over 35 common activities

1. Generic assessments.

- a) We have produced for you generic, or 'model', risk assessments for activities which are likely to pose a significant risk and are typical activities which are likely to be undertaken in similar places of work.
- b) The generic risk assessments account for the majority of hazards and risks that arise, but will require fine tuning and adaptation to cater for individual circumstances.

2. The risk assessment format.

The format we have used leads you through the process of looking for hazards, deciding who might be at risk, evaluating the level of risk and controlling risk. The right hand column of the sheet allows you to add specific comments relating to your own particular working environment.

3. How might you use the generic risk assessments ?

If the task corresponds to a workplace activity that is undertaken in your establishment then you may use the risk assessment provided as it stands. However, once you have adopted the assessment and it has been approved by the appropriate signatories then it becomes part of your response to statutory health & safety provision. It is thus important to make sure that you are able to comply with all control measures that are to be implemented as part of that risk assessment.

Our advice is to delete **out** any statements which you think are inappropriate to your situation and to write **in** any other details which, within your assessment, you feel should be added. To help you with this we have provided the assessments in both hard copy and electronic form. In addition we have provided a bank of statements (see section 5) which you may find useful in cutting and pasting into the risk assessment sheet. Should you wish to reformat on hard copy the whole sheet with a mixture of revised information, then a photocopyable blank proforma is provided.

4. Index to Generic Risk Assessments

A sample risk assessment is set out on the following page and the index to the bank of risk assessments is set out on page 19.

Worked Example

RISK ASSESSMENT Using Small Sharp Edged and Pointed Hand tools		Risk Assessment no. RM13
Unit/location: Resistant Materials		
Assessors names: M. Corley, M.Smith, J.Hill, R.Kay		
Activity, process or procedure: Cutting and shaping a variety of materials with small hand tools and utensils e.g. knives, chisels, hand saws, planes, scissors, files, cutters.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with the cutting edge, sharp pointed end of tools or trapped skin in tool mechanism.	☐	
Who might be harmed? The operator and in some circumstances people in the vicinity	☐	
What is the level of risk ?	HIGH MEDIUM LOW	
Is the risk adequately controlled?	YES NO	
If NO can the activity, process or procedure be eliminated?	YES NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training Pupil users shall be instructed and trained in the use of the equipment and possible dangers associated with specific parts of the equipment (graters, scribes, file tangs) and precautions which must be observed, e.g. cutting away from the body, dangers from exposed file tangs. Procedures These items shall only be used by pupils under general supervision after training and observation. Sharp equipment will be stored in such a way that it will be obvious, at the end of the session, if any items have not been returned for safe storage. Sharp equipment will be housed in such a way that it does not present a possible risk while selecting or picking up the item. Appropriate cleaning/hygiene measures to be applied to all equipment. Maintenance Maintenance programme for recognition of faults, defects and sharpening. Monitoring Monitoring procedures shall be used for the distribution, use and collecting in of equipment. Pupil training will be given and competency monitored.	Student records kept when this is completed. Records passed on to following teacher 6th formers allowed access when not supervised. Storage being reviewed at time of assessment	
Further action required:		
It is of some urgency that storage arrangements are improved so that monitoring can more easily take place		
Signed M.Corley	(Assessor) date 17/8/97	
Signed	(Assessor) review date 12/12/97	
Distribution: All department staff, school H&S officer		

Establishing the Level of Risk

The number produced by multiplying the severity of the hazard by the probability of the hazard presenting itself can be used to establish the level of risk.

Severity of the hazard

Severity of hazard	Value
CATASTROPHIC - imminent danger exists leading to death or large scale illness	1
CRITICAL - hazard can result in serious injury	2
MARGINAL - hazard can cause injury or illness not expected to be serious	3
NEGLIGIBLE - will not result in injury or illness	4

Probability rating

Probability rating	Value
PROBABLE - likely to occur immediately	1
REASONABLY PROBABLE - probably will occur sometime	2
REMOTE - may occur sometime	3
EXTREMELY REMOTE - unlikely to occur	4

LEVEL OF RISK = Severity estimate X Probability estimate.

HIGH RISK = 1-4

MEDIUM = 5-11

LOW = 12-16

Probability rating	Severity of hazard			
	CATASTROPHIC	CRITICAL	MARGINAL	NEGLIGIBLE
PROBABLE	1	2	3	4
REASONABLY PROBABLE	2	4	6	8
REMOTE	3	6	9	12
EXTREMELY REMOTE	4	8	12	16

Fig. 3 The level of risk

Risk Assessments and the Law

T

he legal requirement to carry out risk assessments

The management of Health And Safety at Work Regulations 1992 clearly stipulates that:

Regulation 3 Risk Assessment

1. Every employer shall make a suitable and sufficient assessment of:

- a) The risks to the Health & Safety of his employees to which they are exposed whilst they are at work; and
- b) The risks to the Health & Safety of persons not in his employment arising out of or in connection with the conduct by him of his undertaking.

For the purpose of identifying the measures he needs to take to comply with the requirements and prohibitions imposed upon him by or under the relevant statutory provision

2. Any assessment such as is referred to in paragraph (1) shall be reviewed by the employer or person who made it if :

- a) there is reason to suspect that it is no longer valid; or
- b) there has been a significant change in the matters to which it relates; and where as a result of any such review, changes to an assessment is required, the employer or person concerned shall make them.

3. Where the employer employs five or more employees, he shall record -

- a) the significant findings of the assessment; and
- b) any group of his employees identified by it as being especially at risk.

4. A risk assessment should usually involve identifying the hazards present in any undertaking (whether arising from work activities or from other factors, e.g. the layout of the premises) and then evaluating the extent of the risks involved, taking into account whatever precautions are already being taken. In this approved code:

- a) a hazard is something with the potential to cause harm (this can include substances or machines, methods of work and other aspects of work organisation);
- b) risk expresses the likelihood that the harm from a particular hazard is realised;
- c) the extent of the risk covers the population which might be affected by a risk; i.e. the number of people who might be exposed and the consequences for them.

Risk therefore reflects both the likelihood that harm will occur and its severity.

'Management of Health and Safety at Work, Approved Code of Practice, Management of Health and Safety at Work Regulations 1992' - Health & Safety Commission.

Records, Forms, Checklists, Data Sheets

1. Records and checklists

The purpose of 'records and checklists' is to help you to efficiently monitor health & safety and to provide an additional means of identifying certain hazards. For example the accident investigation form should help you to highlight the category that accidents might fall into and what areas might need re-assessment.

a) Forms and checklists provided include:

- Accident investigation
- Training log
- Pupil competency monitoring
- Workplace ergonomics (environmental safety levels)
- Blank workplace risk assessment sheet
- Bank of statements

b) Accident investigation

This form should be used to record accidents, classify accidents and describe the action required to prevent a recurrence and suggest where re-assessment may be required.

c) Training log

Staff training should be recorded and monitored and a log should highlight where retraining may be required, if for instance, a qualification is out of date or no longer valid because of changes in regulations.

(Unless specifically mentioned we have assumed that staff are appropriately trained and therefore competent in their designated role)

d) Pupil competency monitoring

Where risk assessment suggests that pupil competency and training should be instituted as a control measure, for instance in the use of a disc sander, then that training and competency should be recorded and monitored. The form provided allows you to do this.

e) Blank workplace risk assessment sheet

The blank proforma is provided so that you are able to generate and write your own risk assessments, merge your own information with our assessments or use the bank of statements provided and personalise to your department by cutting and pasting.

f) Workplace ergonomics

g) Blank statements

These are typical statements that you might find in the written description of a risk assessment and are provided so that through cutting and pasting you can build them into your own assessments.

Accident Investigation

Department

Casualty Name	Date of Accident	Time of Accident	Area of Work	Injury	Treatment	Signed

Classification of Cause of Accident	System of work	<input type="checkbox"/>	Human error	<input type="checkbox"/>
	Faulty equipment	<input type="checkbox"/>	Other	<input type="checkbox"/>
	Environment	<input type="checkbox"/>		

Investigation Report

Action to Prevent Recurrence assessment needed of	Re-
	1. System of work <input type="checkbox"/>
	2. Equipment <input type="checkbox"/>
	3. Environment <input type="checkbox"/>
	4. Training <input type="checkbox"/>
	5. Other <input type="checkbox"/>
<hr/> Action Approved	
Signature of Approval (Head of Department)	

Pupil Competency Monitoring

Pupil Name.....

Equipment	Date of Training				Agreement to Comply
	Demo. by tutor		Observation. of practice		
	Date	Staff sig.	Date	Staff sig.	Pupil Signature
Glues					
Sharp knives					
Bandsaw					
Disc sander					
Linisher					
Wood turning lathe					
Drilling machine					
Router					
Morticer					
Fret saw					
Jig saw					
Portable power tools					
Oxy-Acetylene					
Electric arc welding					
Gas brazing					
Furnaces					
Forge					
Metal centre lathe					
Milling machine V/H					
Guillotine					
Portable power tools					
Flypress					
Drilling machine					
Linisher					
Injection moulder					
Vacuum former					
Strip heater					
Blow moulder					
Portable power tools					
Buffing machine					
Sewing machine					
Iron					
Personal hygiene					
Food handling					
Cookers					
Food mixers					
Powered hand tools					
Knives and cutters					
Potters wheel					

Monitoring and Maintenance Log

	Date	Signature	Remarks
Portable Appliance Testing/ Area(s)
Machine maintenance/ machine type
Welding
Pressure vessels
Dust extraction area (s)
Other
Visit by E.H.O. H.S.E. Fire Officer Other

Staff Training Log

[illegible]

Workplace Ergonomics (Environmental Safety Levels and Guidance)

Noise

First action level 85dB(A) _{LEP,d} (Daily personal noise exposure)

Risk assessed by a competent person, people warned about the risk, hearing defenders made available.

Second action Level 90dB(A) _{LEP,d}

Do all that is possible to reduce exposure, identify exposure zones with recognised signs to restrict entry.

Hearing protection must be worn.

Levels of Noise

Conversation	50-60 dB(A)
Loud Radio	70 dB(A)
Busy Street	80 dB(A)
Circular Saw	90 - 100 dB(A)

Guide

If you cannot hear clearly what someone is saying when you are approximately 2 metres away then the level of noise is approaching the first action level. If you cannot hear somebody clearly at 1 metre then the level is approaching the second action level or higher.

Light

Corridors and circulation routes	20 lux
Workshops	100 lux
Offices	200 lux
Bench work	500 lux
Machine work	1000 lux
Heat treatment, welding, casting	Subdued to see flame and metal colour changes

Stroboscopic effect

Mains lighting, in particular from fluorescent lamps produces oscillating light. If the frequency of oscillations is a multiple of the frequency of a moving part of a machine e.g. circular saw blade, then the blade will appear stationary. This stroboscopic effect can be effectively reduced by supplying adjacent rows of fluorescent lamps from different phases or by using local lighting from tungsten lamps.

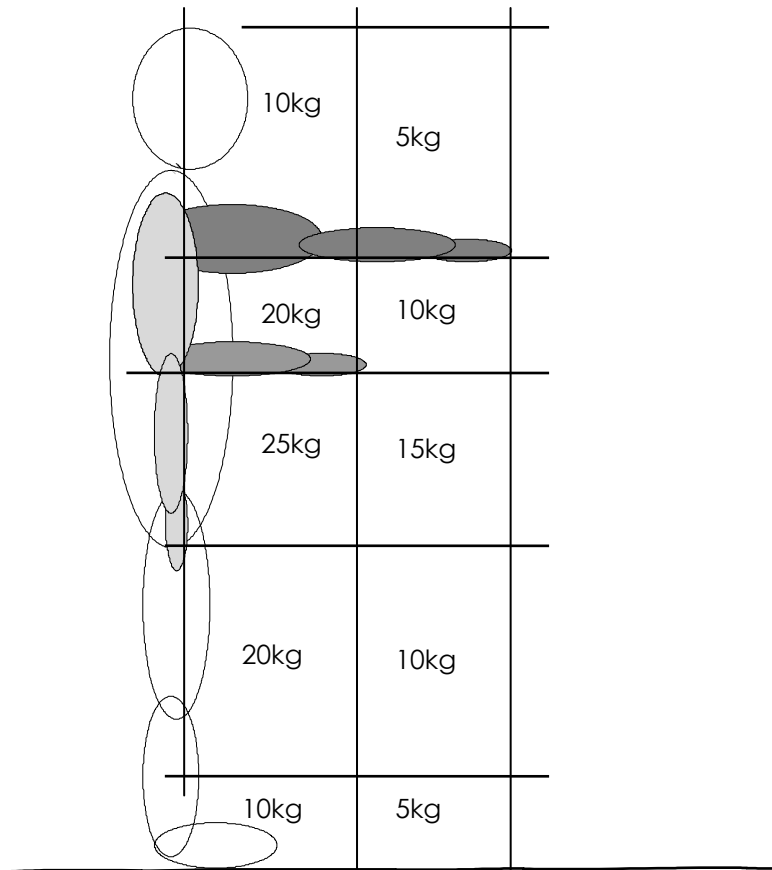
Temperature

It is recommended that workrooms should normally be at least 16°C. In rooms where food products have to be kept at low temperatures then the temperature should be at a level which does not cause the food to deteriorate.

Maximum Exposure Limit

Hardwood dust	5 mg m ⁻³ over an 8 hour TWA (Time Weighted Average) ref. period
Fused silica (pottery)	0.4 mg m ⁻³ over an 8 hour TWA
Welding fume	5 mg m ⁻³ over an 8 hour TWA

Manual Handling



Lifting and lowering guideline figures

(figures indicate the weight of loads lifted and lowered from the areas indicated)

These guidelines assume that the load can be readily grasped and that the lift, movement and lowering of the load does not involve any twisting of the body.

The figures shown are for a healthy male. To include 95% of females the figures should be reduced by a third.

Customising your Risk Assessments

Statements like these can be used to make the generic Risk Assessments personal to your department.

All staff have gained Basic Food Hygiene certificate. Records of these are kept in the arrangements section of the departmental Health & Safety policy.

COSHH data is kept in the following locations for immediate access in an emergency.....

Pupils are required to place food ingredients in the refrigerators in the HE room 1 when they arrive in the morning. When food products are complete they are stored in the refrigerators in HE room 2. The temperature of these refrigerators is monitored twice a day. Monitoring sheets are kept in the arrangements section of the departmental Health & Safety policy.

Waste materials are bagged and removed by the caretaking staff at the end of each day.

All the Food Technology staff and pupils' aprons/overalls are washed daily.

At the end of each practical session all hand cooking utensils are placed in the trays, checked by the ancillary staff prior to being thoroughly washed in a dishwasher.

Before pupils enter a Food Technology workshop for practical work they thoroughly wash their hands using a nail brush and soap, in the sink designated for the purpose.

All highly flammable materials are kept in a locked cabinet situated in CDT. A.N.Other has the key and will issue materials and COSHH data sheets when requested.

First Aid is administered by trained staff based in the school office.

All sewing machines are serviced each year by the 'Sew-it-well' company. Record sheets are kept in the technicians office.

All cleaning staff have been provided with, and trained in the use of, face masks.

Any staff intending to work 'alone' on the circular saw during the evening, weekend or holidays must inform the school office before commencing work. A member of the office staff will arrange to speak with the 'lone' worker every hour or less as agreed.

Staff must not ask pupils to help them unload a delivery of materials. The movement of stock will only be undertaken by staff who have successfully completed a manual handling course.

Before any portable electrical equipment is used by a pupil the equipment and appropriate pupil competency record will be checked by staff.

'Hackit and Weld' have a contract to ensure the safety of the oxy-acetylene system. Their contract includes an annual inspection and 'call outs' as necessary.

The competencies of staff are logged in the responsibilities section of the departmental Health & Safety manual.

Under no circumstances will pupils be allowed to use files or emery cloth on work rotating in an engineering lathe.

No laminated work will be allowed to be turned on a wood lathe.

Blank Risk Assessment Form

RISK ASSESSMENT		Risk Assessment no.
Unit/location:		
Assessors names:		
Activity, Process or Procedure:		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS		SPECIFIC COMMENTS
Hazard:		
Who might be harmed?		
What is the level of Risk ?		HIGH / MEDIUM / LOW
Is the risk adequately controlled?		YES/NO
If NO can the activity, process or procedure be eliminated?		YES/NO
If NO the following Control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training Procedures Guarding Environment Maintenance Personal Protective Equipment Monitoring		
Further action required:		
Signed position date		
Distribution:		

Section 2

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RISK ASSESSMENT		Risk Assessment no.
Minimising instances of Food Poisoning		FO1
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: Reducing to acceptable limits possible causes of food poisoning		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Food poisoning results from eating food containing harmful substances or organisms. These can be caused as a result of using ingredients contaminated by chemicals, toxins, bacteria, preparation systems and infected pupils and staff. A significant factor in increasing the risk is when work is being undertaken by inexperienced pupils.		
Who might be harmed? Any person eating contaminated food. The symptoms are diarrhoea, vomiting, abdominal pains and in severe cases death. The young, elderly and people with an existing illness are most at risk		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training In order to reduce the risk of food poisoning all pupils and staff will be adequately trained in all matters concerning Food Hygiene. Staff will be required to undertake training in Food Hygiene. Procedures Chemical Hazards - All chemicals used in Food preparation area will be strictly controlled. All chemicals will be stored well away from food. The use of certain foods - shellfish, red kidney beans etc. containing toxins will be monitored. Good standards of personal hygiene and the correct treatment of certain foods will help to reduce instances of Staphylococcal toxin causing food poisoning. Bacteria contamination will be reduced by ensuring that food is never left for long periods, (particularly at room temperature) prior to consumption. Procedures will be put in place to ensure that food is correctly cooked, stored and re-heated. Cross-contamination will be minimised by careful use and selection of equipment, high levels of personal hygiene, kitchen cleaning, waste disposal, pest control and maintenance routines. Hazard Analysis systems (HACCP) will be set up to assure food safety. Monitoring The health of pupils and staff will be screened and monitored.		
Further action required: The identification of Critical Control Points (CCPs) at which it is necessary to control the known hazards. The establishment of procedures for monitoring and controlling the CCPs.		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Preparation, Cooking and Storage of Food		FO2
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: Food preparation represents an integral stage in the processing of raw materials to produce a quality finished product. As well as the need to maintain high standards of hygiene, cleanliness and minimise cross-contamination it can involve the use of sharp tools, hot items and lifting.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Food poisoning resulting from eating food contaminated by chemicals, toxins, bacteria etc. burns, cuts, scalds, materials igniting and manual handling injuries. A significant factor in increasing the risk is when work is being undertaken by inexperienced pupils.		
Who might be harmed? Any person preparing food or eating contaminated food. The young, elderly and people with an existing illness are most at risk from eating contaminated food.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training All pupils and staff will be trained to use equipment safely and to maintain high levels of personal hygiene. Specific fire training is necessary to deal with oil and fat fires. Procedures Hands and fingernails will be thoroughly washed, any cuts or abrasions covered with a blue waterproof plaster. Jewellery will be removed. Hair tied back or netted. All surfaces and equipment will be food grade quality and subject to a comprehensive cleaning schedule. Some items, such as chopping boards can be colour coded to reduce cross-contamination. Pots, pans and other equipment will be carefully monitored for contamination. Systems will be put in place to minimise personal injury and injury to others while handling hot items. Heavy items of equipment will be stored in such a way as to minimise manual handling injuries. All mains electricity plugs will be to BS 1363. Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Maintenance Machine and hand operated equipment will be regularly checked and serviced. Electrical items will be subject to Portable Appliance Testing (PAT) by a competent person. Pressure cookers will be subject to regular inspection by a competent person to ensure that they operate safely. Personal Protective Equipment All pupils and staff will be provided with suitable and sufficient clean protective clothing. Monitoring		

The use of sharp tools will be monitored. The storage of perishable, non-perishable, chilled and frozen food will be monitored (temperature, use by date and stock rotation) The competence of pupils and staff will be monitored	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

FO2 Continued

RISK ASSESSMENT		Risk Assessment no.
Working with High Risk Foods		FO3
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: High risk foods are those foods which support the growth of pathogenic organisms and which are not subject to further heat treatment which would destroy those pathogens.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Food poisoning resulting from contaminated high risk food. A significant factor in increasing the risk is when work is being undertaken by inexperienced pupils.		
Who might be harmed? Any person eating contaminated food. The symptoms are diarrhoea, vomiting, abdominal pains and in severe cases death. The young, elderly and people with an existing illness are most at risk		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Procedures Cooked fish and shellfish - cold storage and defrosting procedures must be carefully controlled. Cooked meat/meat products - all products must be cooked at 75°C for a minimum of 2 minutes. Reheating should also achieve a temperature of 75°C and should not fall below 63°C prior to being consumed. Eggs - these should be stored in a cool dry place away from possible contaminants. Hands should be washed before and after handling eggs. Preparation surfaces and equipment should be regularly cleaned. Egg dishes should be consumed as soon as possible after preparation. Cooked Rice, Pasta and Pulses - serve immediately after cooking or maintain the food above 63°C, cool quickly, using fresh running water, refrigerate and then only thoroughly reheat the required amount. Prepared vegetables - raw vegetables must be thoroughly scrubbed and peeled. Storage temperatures should not exceed 5°C and be restricted to 48 hours before consumption. High standards of personal hygiene including hair tied back and jewellery removed. Monitoring Refrigeration temperatures will be carefully monitored.		
Further action required: Care will be taken to ensure that cross-contamination is minimised while food products are stored in a refrigerator.		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Sensory Testing		FO4
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: Sampling solid or liquid based food ingredients and prepared food products		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Food poisoning and the spread of infection as a result of eating food containing harmful substances or organisms. Whilst this can be caused as a result of sampling food contaminated by chemicals, toxins or bacteria, infection or contamination passed on by other people involved in the sampling is likely to be a significant factor in increasing the risk.		
Who might be harmed? Any person consuming contaminated ingredients. The symptoms are diarrhoea, vomiting, abdominal pains and various consequences of infection.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training In order to reduce the risk of food poisoning all pupils and staff will be adequately trained in all matters concerning Food Hygiene. Staff will be required to have a Basic Food Hygiene Certificate or its equivalent. Procedures All chemicals used in the food preparation and tasting area will be strictly controlled. All chemicals will be stored well away from food. Good standards of personal hygiene and the correct treatment of certain foods will help to reduce instances of Staphylococcal toxin causing food poisoning. Bacterial contamination will be reduced by ensuring that food is never left for long periods, particularly at room temperature prior to sampling. Procedures will be put in place to ensure that the sample is correctly cooked (if appropriate), stored and displayed. Cross-contamination will be minimised by careful use and selection of equipment. Each ingredient or product will be carefully divided into an appropriate number of samples and distributed in such a way as to minimise possible cross contamination. Individual dishes, disposable cups, cocktail sticks and tooth picks provide effective control in most situations. If sampling a mixture which can't be easily divided up then disposable spatulas or lollipop sticks should be used. If spoons or other re-usable devices are used they must pass through a thorough decontamination procedure between each individual use. Suitable and sufficient arrangements must be made for receiving waste. These should include procedures for dealing with vomit. Monitoring The health of pupils, staff and those involved in sampling will be monitored.		
Further action required: All people involved in the sampling will be shown how to pick and dispose of the sample and/or sampling device. It is essential that any item handled or used to carry food into the mouth be either disposed of or thoroughly cleaned immediately after use.		
Signed (Assessor) date		

Signed (Assessor) review date
Distribution:

FO4 Continued

RISK ASSESSMENT		Risk Assessment no.
Handling Hot items		FO5
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: Safe lifting, moving and carrying of hot items around a Food Technology Workshop.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Burns and scalds arising from direct contact with the heated food, contact with the hot surface of the container used to heat the food, or hot surface of the heating equipment. A significant factor in increasing the risk is when work is being undertaken by inexperienced pupils.		
Who might be harmed? Any person preparing hot food or others in the vicinity who may be affected by spills or accidental contact with the hot item whilst it is being moved or carried.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training All pupils and staff will be trained to use equipment safely. Specific fire training is necessary to deal with hot oil and hot fat used for cooking purposes. Procedures Systems will be put in place to minimise personal injury and injury to others while handling hot items. Specific measures will include: <ul style="list-style-type: none"> ensuring, before heating that the weight, size and shape of the container and contents are within acceptable limits in terms of the environment and the person directly handling the hot items; ensuring that all devices used to contain hot food have a means of grasping the device and that the hand holds are adequately insulated and maintain a sufficiently low surface temperature; ensuring that hand holds provide for balanced, stable support; using, whenever possible, containers with correctly fitting lids; ensuring that under no circumstances will hot or burning oil / fat be moved; switching off the heat source before attempting to move hot items. Guarding Any guarding such as 'hob safety guards' and other devices produced and fitted to heating equipment must be used at all times. Environment Ensuring that routes 'to' and the 'set down area' are clear before attempting to support and carry hot items. Maintenance Heating equipment and heating containers will be regularly serviced and checked. Electrical items will be subject to Portable Appliance Testing (PAT) by a competent person. Pressure cookers will be subject to regular inspection by a competent person to ensure that they operate safely. Personal Protective Equipment All pupils and staff will be provided with suitable and sufficient clean protective clothing Further action required: Injuries resulting from contact with hot		

surfaces or hot food will only be dealt with by a First Aider. Only cold water will be used to provide initial First Aid.	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

FO5 Continued

RISK ASSESSMENT		Risk Assessment no.
Cleanliness		FO6
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: Reducing the possibility of contaminating food materials, slip and trip hazards by maintaining a clean and tidy working environment.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Food poisoning resulting from eating contaminated food. Slip and trip hazards as a result of untidiness and damaged, uneven or slippery floors Exposure to chemicals and abrasives used to maintain cleanliness Exposure to hot water and chemicals used during washing up.		
Who might be harmed? Any person eating contaminated food. Any person slipping or tripping. Any person exposed to chemical and abrasive cleaning materials The risk of permanent injury from exposure to chemical and abrasive materials is low, however, specific people may find exposure causes an allergic reaction or dermatitis.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training All staff involved in ensuring cleanliness within a food workshop will be knowledgeable of the risk caused by contamination of food by abrasive and chemical cleaning materials. Staff will also be aware of the hazards associated with using electrical equipment within a wet environment. Procedures All persons working in the food area will ensure that all spillages are removed as soon as they become evident. Before any work with food is undertaken all surfaces on which food will be placed must be wiped down with a suitable cleaning material. Waste will be disposed of regularly, at least once per day, in sealed bags and placed in a suitably located gnaw proof bin. All dirty items of equipment will pass through a washing procedure whereby they are subjected to temperatures in excess of 60 ⁰ C. Floors will be wet mopped each day. Walls and ceiling will be cleaned down at least once per year. Guarding All mains powered equipment should be isolated from the mains supply before any cleaning operation is started. Environment The work surfaces, walls, floor and ceiling will be covered in materials which are appropriate. There should be no cracks or crevices in which food waste could be left to degrade and become the source of contamination. Maintenance All equipment used for cleaning surfaces, tools and equipment will be regularly serviced. Particular attention will be given to Portable Appliance Testing. Personal Protective Equipment Overalls and rubber gloves should be worn by all cleaning staff. Specific arrangements should be made when cleaning certain items of equipment in confined spaces e.g. oven cleaning.		
Further action required: Staff involved in cleaning operations must be aware of all pertinent COSHH data and have		

available to them data sheets on all hazardous materials used.
Signed (Assessor) date
Signed (Assessor) review date
Distribution:

FO6 Continued

RISK ASSESSMENT		Risk Assessment no.
Cookers and Microwaves		FO7
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: Reducing to acceptable levels instances of burns, scalds and microwave radiation.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Users being burnt through contact with hot parts of cooker and hot cooking trays and other containers. Scalds can arise from exposure to steam. e.g. removing lids, opening sealed microwave containers Poor seals around a microwave oven door allowing microwave radiation to leak. Exposure to naked flames on gas cookers. Explosion of gas. Exposure to electric shock. Exposure to explosion of glass cooking containers and vision panels. Trip hazards and burns caused by oven doors left open.		
Who might be harmed? Any person using the cooking equipment and others passing in close proximity to the equipment.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training Pupils will be trained in the safe use of cookers and microwaves. Procedures Oven doors will be kept closed unless the oven is being loaded or unloaded. Guarding Guarding and safety devices will be in accordance with 1992 Work Equipment Regulations. Environment Care will be taken over the siting of all cookers. Maintenance Cookers will be regularly serviced by a competent person. Pressure cookers will be subject to regular inspection by a competent person to ensure that they operate safely. Personal Protective Equipment All pupils and staff will be provided with suitable and sufficient, clean protective clothing.		
Further action required: Cleaning materials will be subject to a COSHH assessment and their use may require the provision of Personal Protective Equipment.		
At least 2 staff will be available when cooker cleaning is being undertaken.		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Using Small Sharp Tools		FO8
Unit/location: Food Workshop		
Assessors names:		
Activity, process or procedure: Cutting and shaping a variety of food materials with a knife, grater or proprietary cutter.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with the cutting edge or sharp pointed end of the knife.		
Who might be harmed? The operator and in some circumstances people in the vicinity.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training Pupil shall be instructed and trained in the safe use of knives, graters and proprietary cutters.</p> <p>Procedures Knives will be kept in a locked cupboard or room when their use is not being supervised. Knives will be stored in such a way that it will be obvious, at the end of the session, if any knives have not been returned for safe storage. Knives will be stored in such a way that they do not present a risk while selecting or picking up the knife. Knives shall only be used by pupils under general supervision after training and observation. Graters and proprietary cutters will be stored in such a way that they do not present a risk while selecting or picking up the item. Appropriate cleaning/hygiene measures to be applied to all equipment.</p> <p>Guarding All proprietary guards will be used at all times.</p> <p>Maintenance Maintenance programme for recognition of faults, defects and sharpening</p> <p>Monitoring Monitoring procedures shall be used for the distribution, use and collecting in of equipment. Pupil training will be given and competency monitored.</p>		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Machine Sewing, Overlocking, Knitting & Ironing		TE1
Unit/location: Textiles Workshop		
Assessors names:		
Activity, process or procedure: The assembly and finishing of textiles materials requires the use of specialist machines and the use of hot irons, involving in some cases steam.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Electric shock, puncturing skin with needles, lifting and moving heavy machines, burns from electric irons and entanglement. Access to equipment, fixed electrical sockets, sinks and bench space can also contribute to the level of risk.		
Who might be harmed? The person using the machine.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training All pupils will be trained in the safe use of all equipment and associated processes. In certain instances hair should be tied back. Procedures All equipment will be checked by a teacher or technician before use. All equipment will be stored at a convenient height with good access. <i>Heavy items should be stored at a low level.</i> Trolleys and other lifting or supporting equipment will be used to help minimise physical injuries. Wherever possible trailing leads will not be used. Electrical items will be subject to Portable Appliance Testing (PAT) by a competent person. All mains electricity plugs will be to BS 1363. Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Environment Wherever possible machines will be left in their normal location, available for use as required. Ironing activities will not take place in areas of high movement e.g. aisles and gangways. Adequate lighting levels will be maintained recognising the intricate nature of much of the work. Maintenance All machines will be subject to regular maintenance and repaired as necessary. Personal Protective Equipment Long hair will be tied back. Relevant jewellery removed. Monitoring The competence of pupils will be monitored The number and range of activities will be constantly assessed to ensure appropriate levels of supervision are possible. The use and storage of all sharp equipment will be carefully monitored. A schedule for repair and maintenance monitoring will be kept up to date..		
Further action required:		

Signed (Assessor) date
Signed (Assessor) review date
Distribution:

TE1 Continued

RISK ASSESSMENT		Risk Assessment no.
Working with Textile Materials		TE2
Unit/location: Textiles Workshop		
Assessors names:		
Activity, process or procedure: Many of the materials used in textiles workshops burn. Exposure to chemicals and hot devices can cause injury.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Many textile materials burn rapidly if ignited by a naked flame. Fumes and smoke are produced particularly from synthetic materials. Wax kettles, used for batik, can cause a fire or scalds from hot wax. Some chemicals used within textiles are flammable, harmful if inhaled / swallowed or the cause of dermatitis.		
Who might be harmed? Any person working with textiles in the textile workshop.		
What is the level of Risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
CONTROL MEASURES		
Training Pupils shall be trained in the safe use of equipment and materials. Pupils shall be trained in the selection and safe use of personal protective equipment. Procedures COSHH data to be made available and carefully followed. Wax kettles will be subject to Portable Appliance Testing (PAT) by a competent person. Environment All materials will be stored well away from any source of ignition in closed containers or lockable cupboards. All flammable liquids will be stored in an appropriately labelled fire-resistant cabinet with arrangements in place to deal with fire, leaks and spillages. Personal Protective Equipment Goggles to BS2092 (C) will be required for working with certain materials as defined by COSHH. Monitoring The competence of pupils will be monitored. The use of wax kettle and other equipment or hazardous materials will be strictly monitored.		
Further action required: Regulations prohibit the use of flammable materials in nightwear and furnishings. Specific first aid and fire training procedures will be assessed and monitored		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Working with Hazardous Materials		CE1
Unit/location: Ceramics Workshop		
Assessors names:		
Activity, process or procedure: Acceptable limits of exposure to hazardous materials.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Inhalation of fine dust, fumes, gases, mists and vapours. Ingestion by introducing toxic substances into the mouth on food or other objects (licking the tips of brushes when decorating). These can emanate from the use of clay, glazes and colours which can contain silica and metal. Heavy metals in the form of lead, antimony, chromium etc. may also be present. Exposure to dust (fused silica etc.) within the ceramics workshop area is subject to published exposure limits. Dermatitis in susceptible people. Manual handling heavy bags and sacks of materials.		
Who might be harmed? Any person working within the ceramics workshop.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training Cleaning staff will be given training in safe cleaning procedures. Pupils will be trained in the selection and use of personal protective equipment Procedures All 'dusty' work, including the preparation of powdered glaze will, whenever possible, be undertaken under localised extraction and exhausted to the atmosphere. All spillage's will be cleaned up as they occur. In order to conform with regulations dangerous substances such as lead will only be used in fritted form. Careful consideration will be given to all COSHH data provided by manufacturers. Any decanted or prepared materials will be stored in labelled and dated containers. All materials should be stored in a ventilated store. Certain more hazardous materials (as identified by COSHH) will be kept in a locked cabinet suitable for the purpose along with relevant COSHH assessments. Environment Procedures will be put in place to ensure that any accumulations of dust are removed safely. Regular wet mopping of floors and wet wiping of walls and other surfaces will form the basis of the ceramics workshop cleaning schedule. All waste materials and empty packaging will be disposed of in an appropriate way. Personal Protective Equipment Suitable and sufficient personal protective equipment including approved respirators BS2091 (with correctly dated filter fitted) dust masks, goggles BS2092 (C), terylene/PVC overalls will be provided and their use carefully monitored if dust cannot be eliminated by other means.		
Further action required: Sampling and analysis can be undertaken by an analytical consultant and the results matched against current minimum exposure limits.		

Signed (Assessor) date
Signed (Assessor) review date
Distribution:

CE1 Continued

RISK ASSESSMENT		Risk Assessment no.
Working with Equipment and Machinery		CE2
Unit/location: Ceramics Workshop		
Assessors names:		
Activity, process or procedure: The production of ceramic items requires the use of specialist machines and equipment.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
<p>Hazard: Entanglement.</p> <p>Pug mills are potentially very dangerous pieces of equipment and require careful consideration.</p> <p>Precautions when using blungers are similar to pug mills.</p> <p>Spraying equipment requires controls to minimise harmful exposure to dust and fumes.</p> <p>Kilns usually work on 3 phase electricity and thus present particular electrical risks as well as those associated with fumes which are an outcome of the firing process.</p> <p>Lifting and handling heavy, wet, dusty, sometimes toxic materials.</p>		
Who might be harmed? Person(s) using the equipment, lifting and handling materials		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training</p> <p>The competence of all people using equipment will be strictly monitored.</p> <p>Procedures</p> <p>All fixed equipment will be installed by a competent engineer and any electrical installation work completed by an approved competent electrician.</p> <p>Pugmills, blungers and kiln shall only be used by trained personnel.</p> <p>Other machines shall only be used by trained personnel or pupils under supervision.</p> <p>Machines shall not be considered functional without a separate isolator and clearly marked stop/start buttons. The main electrical supply will be capable of being locked off.</p> <p>Machines will be equipped with a 'no-volt' release.</p> <p>All materials will be assessed in terms of manual handling.</p> <p>All portable electrical equipment will be subject to Portable Appliance Testing (PAT) by a competent person.</p> <p>All mains electricity plugs on portable equipment will be to BS 1363</p> <p>Fixed machines will be equipped with a 'no-volt' release.</p> <p>Consideration will be given to 'lone' working.</p> <p>Guarding</p> <p>Guarding for all machines will be in accordance with 1992 Work Equipment Regulations.</p> <p>Whenever guards or parts of the machine are removed or dismantled for purposes of adjustment or cleaning down, the machine's electrical isolator will be locked in the 'off' position (isolated) with notices to that effect. Under no circumstances will any equipment be used with guards removed.</p> <p>Environment</p> <p>Only equipment, specifically designed for the purpose, shall be used in the ceramics workshop.</p> <p>The Kiln will be sited in a ventilated separate room (or caged) with sufficient room to allow controlled access. A warning light will alert people of its operation.</p>		

<p>Under no circumstances will the kiln room be used to store materials, particularly of a flammable nature, other than those which form part of the firing process.</p> <p>Areas around fixed machinery will be marked by floor marking.</p> <p>Non-slip flooring will be provided.</p> <p>Maintenance</p> <p>All equipment will be regularly serviced.</p> <p>Personal Protective Equipment</p> <p>Dust respirators to BS 2091 fitted with the appropriate cartridge filter.</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Monitoring</p> <p>Temperature control equipment will be regularly tested to ensure correct fail-safe operation.</p> <p>Service records will be retained for reference</p>	
<p>Further action required:</p> <p>Receiver type compressors will be subject to regularly pressure checks for the purpose of safety as well as insurance.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

CE2 Continued

RISK ASSESSMENT Spraying of Glazes		Risk Assessment no. CE3
Unit/location: Ceramics Workshop		
Assessors names:		
Activity, process or procedure: Spraying glazes on clay articles		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Inhalation of dust particles leading to respiratory problems, contact with chemicals and minerals		
Who might be harmed? The person directly involved with the spraying operation, others in the vicinity and those affected by a contaminated atmosphere.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training All pupils will be trained in the safe use of all spraying equipment.</p> <p>Procedures Spraying will only take place if adequate ventilation is available. Spraying will require a suitably ventilated spray booth of adequate size to cope with the task in hand. COSHH data will be made readily available for all glazes in current use. Appropriate precautions and controls identified in COSHH data will be adhered to at all times. Only the pupil directly involved in the spraying operation shall be allowed in the spray booth area. All pressurized systems will be of a design which can be adequately controlled by the user of the system. At no time will sources of ignition be permitted in the spraying area or adjacent work spaces. Staff will ensure that the spraying operation is appropriately supervised.</p> <p>Environment The spray booth should exhaust to the outside through a cowl of a design and location that will prevent exhausted air re-entering the workshop environment or other parts of the school.</p> <p>Maintenance The ventilation system will be annually checked. The filter system will be checked regularly to prevent clogging. Any pressurized part of the spray equipment will be regularly serviced. Receiver type compressors will be professionally checked at regular intervals depending upon usage (3-5 years)</p> <p>Personal Protective Equipment Face masks and full face respirators, fitted with appropriate filters will be worn by all people involved directly in the spraying operation.</p>		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Using Abrasive Wheels		RM1
Unit/location: Resistant Materials (Metal)		
Assessors names:		
Activity, process or procedure: Sharpening tools, and removing waste material using bench , pedestal or 'off hand' grinder.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with grindstone wheel, flying waste material. Entanglement Abrasive wheel break-up. A significant increase of risk occurs when the machine is sited in an area which is accessible by people other than the operator/teacher or technician.		
Who might be harmed? The machine operator or persons in the vicinity of the operation		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training Staff will be trained in the use of and possible dangers associated with specific parts of the machine and precautions which must be observed. Procedures The machine shall only to be used by trained staff. Abrasive wheels shall only be changed and dressed by person holding a valid certificate of competence. Only the outer surface (pedestal/bench grinding machines) or face (horizontal 'sharp edge') of the abrasive wheel shall be used. The maximum permissible speed (as identified on the wheel) must not be exceeded. Tool rests will be adjusted to maintain a minimum gap between the wheel and the rest. Any supporting features of the tool rest which facilitate the side of the wheel being used will be removed. Safe working practices shall be recognised and recorded e.g. holding work piece. Procedure for the safe storing, handling, marking, transporting and checking for damage of abrasive wheels shall be established The machine shall not be considered functional without a separate isolator and clearly marked stop/start button. Fixed machines will be equipped with a 'no-volt' release. Machine lighting will be regularly checked. Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Tool rests, visors and wheel guards will be regularly checked and adjusted. (<i>Perspex and plain glass must not be used to repair visors</i>). Careful inspection will be made to ensure that 'trapping points' (between belts and pulleys etc.) are adequately guarded Environment Working area of use shall be set out and marked either by a fixed barrier or floor marking. Flooring will be non-slip. Maintenance Regular machine maintenance as recommended by manufacturer and		

<p>careful wheel checking by a competent person will be monitored.</p> <p>Personal Protective Equipment</p> <p>Users of abrasive wheels shall be provided with appropriate personal protective equipment, goggles to BS2092 (1).</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Loose clothing will either be removed or covered by apron or overall</p> <p>Monitoring</p> <p>Staff undertaking abrasive wheel mounting will be trained and a register (F2346) of their names held by the employer.</p> <p>Safe management procedures shall be written and provided for appropriate staff to read.</p>	
<p>Further action required:</p> <p>Opportunities will be provided for teachers and technicians to undertake appropriate safety training on an approved course.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

RM1 Continued

RISK ASSESSMENT		Risk Assessment no.
Conversion of Materials on fixed and portable Bandsaws		RM2
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Using a bandsaw to shape timber, plastics and other suitable materials.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
<p>Hazard: Contact with the cutting blade, the danger of snapped or flying saw blades, the danger of material being thrown back, dust problems. Unpredictable nature of some timbers - knots, twisted grain etc., jamming of saw blades in materials particularly plastics, Entanglement.</p> <p>A significant increase to the level of risk occurs when a machine is sited in an area which is a main access route or in a confined space.</p> <p>Fine plastic swarf particles attaching themselves through static electricity to skin surfaces (easily rubbed into the eye)</p>		
Who might be harmed? The machine operator or persons in the vicinity of the cutting operation		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training</p> <p>Only staff who have successfully completed an approved and certificated training course will be allowed to train and supervise pupils using this machine.</p> <p>Pupils (age 16 +) will be trained in the safe use of bandsaws.</p> <p>Pupils will be trained in the selection and safe use of personal protective equipment.</p> <p>Procedures</p> <p>The machine shall only be used by designated trained staff and pupils (age 16 +) under direct supervision.</p> <p>The machine shall not be considered functional unless a key switch, isolator ,on/off button and where possible, foot operated emergency stop and brake are in working order.</p> <p>All portable electrical equipment will be subject to Portable Appliance Testing (PAT) by a competent person.</p> <p>All mains electricity plugs on portable equipment will be to BS 1363</p> <p>Machines will be equipped with a 'no-volt' release.</p> <p>Safe working procedures shall be recognised and recorded e.g. use of fence, push sticks.</p> <p>COSHH assessment of materials that are cut shall be undertaken and made available.</p> <p>Dust extraction shall be in place, used and checked to ensure effective operation.</p> <p>Before commencement of the operation all material shall be closely inspected for defects, interlocked or twisted grain, loose knots and foreign bodies. If any of these are found then the material will not be machined.</p> <p>The machine shall not to be operated when operator is isolated or alone.</p> <p>Guarding</p> <p>Guarding for all machines will be in accordance with 1992 Work Equipment Regulations.</p> <p>The machine shall not be operated without secure top and bottom pulley guard, front guard (top blade guard) and under table guard.</p> <p>The top blade guard will be adjusted to ensure minimum blade exposure.</p> <p>Environment</p>		

<p>The machine shall be sited away from distraction of people passing by: where non users are at a safe distance from broken/flying blades; where there is space for long, flat, square, rectangular and board sections to be passed through efficiently and unhindered.</p> <p>Non-slip flooring</p> <p>Working area of use shall be set out and marked either by fixed barrier or floor marking</p> <p>Maintenance</p> <p>Regular maintenance and monitoring shall be undertaken of worn pulley tyres, defective thrust wheels, blade tracking, trapped sawdust.</p> <p>Blades shall be inspected for wear regularly.</p> <p>Personal Protective Equipment</p> <p>All users will be provided with appropriate personal protective equipment, goggles, face shield to BS2092 (1) or (2).</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Loose clothing will either be removed or covered by apron or overall.</p> <p>Monitoring</p> <p>Student competency shall be monitored.</p> <p>Inspection of the dust extraction system will be undertaken every 14 months.</p> <p>Safe management procedure shall be written and provided to appropriate staff.</p>	
Further action required:	
All bandsaws will be equipped with 'no-volt' controls.	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

RM2Continued

RISK ASSESSMENT		Risk Assessment no.
Using a Buffing machine		RM3
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Polishing metal and plastic		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with spindle or mop, flying waste material., dust. Entanglement.		
Who might be harmed? The machine operator or persons in the vicinity of the operation		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training Pupil users shall be instructed and trained in the use of, and possible dangers associated with the buffing operation and specific parts of the machine.</p> <p>Procedures The machine shall only to be used by trained personnel and supervised pupils. The machine shall not be operated without a teacher or technician checking the selection of buffing mop and polishing compound. The machine shall not be considered functional without a separate isolator and clearly marked stop/start button. Fixed machines will be equipped with a 'no-volt' release. COSHH assessment of materials to be polished and polishing compounds used, shall be undertaken and made available. Suitable localised extraction will be provided. Safe working practices shall be recognised and recorded. Work shall not be held in a fashion likely to lead to entanglement.</p> <p>Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Spindles will always be fitted with a buffing wheel (even when the machine is not in use). Spindles shall be guarded with loose revolving spindle guards. Back guards will be provided.</p> <p>Environment Working area of use shall be set out and marked either by a fixed barrier or floor marking. Non-slip flooring.</p> <p>Maintenance Regular machine maintenance as recommended by manufacturer and schedule of monitoring shall be put in place.</p> <p>Personal Protective Equipment Buffing wheel users shall be provided with appropriate personal protective equipment, goggles, face shields to BS2092 (1) or (2). Long hair will be tied back. Relevant jewellery removed. Loose clothing will either be removed or covered by apron or overall.</p> <p>Monitoring The competence of pupils using equipment will be strictly monitored.</p>		
Further action required:		

Signed (Assessor) date
Signed (Assessor) review date
Distribution:

RM3Continued

RISK ASSESSMENT		Risk Assessment no.
Turning Materials on a Engineering Centre Lathe		RM4
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Performing a range of profiling and precision turning operations on resistant materials.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
<p>Hazard: Contact and entanglement with revolving workpiece, sharp cutting tool, flying waste material, loose clothing entangling, contact with cutting fluids and coolants.</p> <p>A significant increase to the risk is when guards are inadequate and not properly set or maintained.</p> <p>A significant increase to the risk is when the machine is sited in an area which is easily accessible by people other than the operator/teacher or technician.</p>		
Who might be harmed? The machine operator or person in the vicinity of the turning operation .		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training</p> <p>Pupil users shall be instructed and trained in the safe use of lathes as well as possible dangers associated with specific parts of the machine and precautions which must be observed.</p> <p>Pupils will be trained in the selection and use of personal protective equipment.</p> <p>Procedures</p> <p>The machine shall only be used by trained staff and pupils under general supervision.</p> <p>The machine shall not to be operated by pupils without a teacher or technician checking the choice of cutting tool, machine speed and mounting of lathe tool and work piece.</p> <p>The machine shall not be considered functional without a separate isolator and clearly marked stop/start button.</p> <p>Safe working practices shall be recognised and recorded e.g. removal of chucks and collets, mounting between centres.</p> <p>Safe working limits shall be recognised and recorded e.g. size and section of material, speeds, feeds, types of materials.</p> <p>COSHH assessment of materials used shall be available.</p> <p>COSHH assessment of coolants and cutting fluids shall be available and notices posted.</p> <p>Machine lights will be kept in working order and tested.</p> <p>Safe management procedure shall be written and posted (Stop, start and emergency stop etc.).</p> <p>Fixed machines will be equipped with a 'no-volt' release.</p> <p>Consideration will be given to lone working.</p> <p>Guarding</p> <p>Guarding for all machines will be in accordance with 1992 Work Equipment Regulations.</p> <p>An interlocked chuck guard shall be fitted or similar method of rendering the machine inoperative if the chuck guard is not in place.</p> <p>The exposed end of the chuck spindle on the left of the headstock will be covered unless long lengths of material are being machined in which case full guarding will be provided to exposed stock.</p> <p>Environment</p>		

<p>The machine shall be sited away from distraction of people passing by, where non users are at a safe distance from possible thrown materials and revolving shafts, where there is space for safe operation, where access to and from the machine is unhindered.</p> <p>Safe working area shall be set out and marked either by fixed barrier or floor marking.</p> <p>Appropriate non slip flooring, and cleaning regime shall be implemented & monitored.</p> <p>Swarf shall be deposited in a sharps container and coolants disposed of according to local environmental regulations.</p> <p>Maintenance</p> <p>There shall be regular maintenance as recommended by the manufacturer, and a schedule for monitoring in place.</p> <p>Personal Protective Equipment</p> <p>All users shall be provided with appropriate personal protective equipment Goggles BS2092 (1) or (2).</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Loose clothing will either be removed or covered by an apron or overall</p> <p>Monitoring</p> <p>The competence of pupils using equipment will be strictly monitored.</p> <p>Safe management procedures shall be written and provided for appropriate staff to read</p>	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

RM4Continued

RISK ASSESSMENT		Risk Assessment no.
Conversion of Timber on the Circular Saw		RM5
Unit/location: Resistant Materials (Wood)		
Assessors names:		
Activity, process or procedure: Preparing timber from stock sizes into workable sections.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with the rotating cutting blade. Entanglement The danger of material being thrown back, dust and noise problems. Unpredictable nature of some timbers - knots, shakes etc. A significant increase to the risk is when a machine is sited in an area which is accessible to people other than the operator or the space is confined and difficult to access.		
Who might be harmed? The machine operator or persons in the vicinity of the cutting of timber and associated construction materials.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training This machine will only be operated by adults who have successfully completed an approved and certificated training course. Procedures A list of all qualified users shall be posted alongside the machine. The machine shall not to be considered functional without an isolator, the insertion and switching of key, foot operated and interlocked 'ON' switch, stop/start button. Emergency stop buttons shall be within the vicinity. Machines will be equipped with a 'no-volt' release controls. Minimum blade diameter will be posted on the machine. Safe working limits shall be recognised and recorded e.g., use of push sticks, safe peripheral blade speeds, minimum blade diameter. Close inspection of material shall take place before machining begins e.g. for interlocked or twisted grain, foreign bodies. COSHH assessment of materials to be cut shall be undertaken and posted. Dust extraction shall be in place and checked for effectiveness. Extraction above the blade will be provided. Safe management procedure shall be written and posted. The machine shall not to be operated when operator is isolated or alone. Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. The machine shall not be operated without riving knife (10% thicker than the saw plate) and crown guard in position. The riving knife will be positioned within 12 mm of saw teeth, crown guard within 12 mm of material. If rebating then an adequate and adjusted tunnel guard will be used. Environment The machine shall be housed in a separate room: away from distraction of people passing by; or where non users are at a safe distance from material which may be thrown; where there is space for various sections and board to be passed through efficiently; where access to and from the machine is unhindered. A 1200 mm (edge of table to up-running teeth) 'take off' table will be provided.		

<p>Working area shall be set out and marked either by fixed barrier or floor marking.</p> <p>Non slip flooring, and appropriate cleaning regime shall be implemented & monitored.</p> <p>Maintenance</p> <p>Regular maintenance of guards, blades and inspection of bed, throat plate, spindles shall be undertaken and monitored. Maintenance log will be kept.</p> <p>Personal Protective Equipment</p> <p>All users will be provided with appropriate personal protective equipment, goggles, face mask to BS2092 (1) or (2), ear defenders to BS EN 352 (1) or (2).</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Monitoring</p> <p>Inspection of the Dust Extraction system will be undertaken every 14 months.</p> <p>Maintenance log will be kept.</p> <p>Non slip flooring, and appropriate cleaning regime shall be implemented & monitored.</p> <p>Safe management procedures shall be written and provided for appropriate staff to read</p>	
<p>Further action required: Opportunities will be provided for all expected users to successfully undertake a certificated wood machining safety course and trained on site to implement safety management procedures.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

RM5Continued

RISK ASSESSMENT		Risk Assessment no.
Preparation of Material on Disc and Belt Sanders		RM6
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Shaping material by sanding to produce smooth surfaces both flat and curved		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with the abrasive surface, entanglement, fingers/hand becoming trapped, danger of material being thrown, dust.		
Who might be harmed? The machine operator or persons in the vicinity of the sanding operation.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training Pupil users instructed and trained in the use of and possible dangers associated with the process. Pupils will be trained in the selection and use of personal protective equipment.</p> <p>Procedures The machine shall not to be operated without the table rest being set at the correct minimum distance, 1-3 mm from the face of the disc or belt. The machine shall only be used by pupils under supervision. The machine shall not to be operated by a pupil without teacher or technician checking the machine setup, in particular the gap between the rest and abrasive disc or belt. The machine shall not be considered functional without an isolator, clearly marked stop/ start button and interlocked micro-switch on drive belt mechanism. All mains electricity plugs on portable equipment will be to BS 1363 Fixed machines will be equipped with a 'no-volt' release. Safe working limits of the equipment shall be recognised and recorded e.g. size, section, type of material. Metal will not be abraded on any of these machines (<i>possible ignition of dust by sparks</i>) COSHH assessment of materials that are abraded shall be undertaken and posted. Dust extraction will always be used. Safe management procedures shall be posted (stop, start and emergency stop).</p> <p>Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Top, unusable quadrant of the sanding disc masked with a fixed guard. All pulleys and other exposed rotating parts of the machines will be appropriately covered. Particular attention will be given towards 'trapping points' (between flat belt and pulley etc.).</p> <p>Environment The machine shall be housed : <ul style="list-style-type: none"> • away from distraction of people passing by; • where non users are at a safe distance from material which may be thrown; • where there is space for safe operation; • where access to and from the machine is unhindered. </p>		

<p>Working area of use shall be set out and marked either by fixed barrier or floor marking.</p> <p>A non-slip floor will be provided around the machine.</p> <p>Maintenance</p> <p>Regular maintenance of guards, and replacement of worn abrasive surfaces shall be undertaken by a competent person.</p> <p>Mounting bolts shall be regularly checked. Maintenance shall be undertaken according to manufactures instructions and monitored.</p> <p>Personal Protective Equipment</p> <p>All users shall be provided with appropriate personal protective equipment, goggles, face mask BS2092 (2), ear defenders BS to BS EN 352 (1) defenders or BS 352 (2) plugs</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Any loose clothing to be removed, or covered by apron or overall.</p> <p>Monitoring</p> <p>The competence of pupils using equipment will be strictly monitored.</p> <p>Inspection (every 14 months) and replacement of dust extraction filters will monitored.</p> <p>The explosive nature of dust shall be recognised and appropriate measures taken to minimise damage to people and property</p>	
<p>Further action required: All training and supervising staff shall be advised to have undertake a certificated machine safety course and trained to implement on-site safety management procedures.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

RM6Continued

RISK ASSESSMENT		Risk Assessment no.
Using a Drilling machine		RM7
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Drilling operations on a variety of materials e.g. woods, metals, plastics		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with swarf and other waste material Contact with insecurely held work, cutting edge of the drill, cutting fluids, Entanglement. Inadequate or poorly maintained guarding creates a significant increase to the risk.		
Who might be harmed? The machine operator or persons in the vicinity of the drilling operation		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training Pupil users shall be instructed and trained in the use of and possible dangers associated with specific parts of the machine and precautions which must be observed. Pupils will be trained in the selection and use of personal protective equipment.</p> <p>Procedures The machine shall only be used by trained staff and pupils under general supervision. The machine shall not to be operated by pupils without teacher or technician checking:</p> <ul style="list-style-type: none"> • appropriate drill speed; • appropriate work holding/clamping; • use of appropriate coolant. <p>The machine shall not to be considered functional:</p> <ul style="list-style-type: none"> • without an isolator; • clearly marked stop/ start button; • foot operated 'OFF' switch; • interlocked micro-switch on drive belt cover. <p>Machines will be equipped with a 'no-volt' release. Safe working limits of the machine shall be recognised and recorded e.g. size & section of material, speeds, types of material. Inspection of materials for defects shall be carried out before commencement of operation. COSHH assessment of materials to be drilled and cutting fluids/coolants used shall be undertaken and made available. Swarf shall be deposited in a 'sharps' container. Safe management procedure shall be written and posted (stop. start and emergency stop).</p> <p>Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Appropriate guards shall be maintained, adjusted and used at all times.</p> <p>Environment The machine shall be sited away from distraction of people passing by: where non-users are at a safe distance from material which may be thrown; where there is space for safe operation; where access to and</p>		

<p>from the machine is unhindered. Safe working area around the machine shall be set out and marked either by fixed barrier or floor marking. Non slip flooring will be provided. Swarf shall be deposited in a 'sharps' container.</p> <p>Maintenance There shall be regular general maintenance and drill sharpening, including thorough inspection of safety devices and guards. A schedule for repair and maintenance monitoring will be kept up to date.</p> <p>Personal Protective Equipment All users shall be provided with appropriate personal protective equipment e.g. goggles, face mask to BS 2092 (2). Long hair will be tied back. Relevant jewellery removed. Any loose clothing will either be removed or covered by an apron or overall.</p> <p>Monitoring The competence of pupils using equipment will be strictly monitored</p>	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

RM7Continued

RISK ASSESSMENT		Risk Assessment no.
Gas Brazing and Heating using Natural/Propane Gas		RM8
Unit/location: Resistant Materials (Metal)		
Assessors names:		
Activity, process or procedure: Heating and joining of metals using a natural/propane gas torch		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with hot surfaces, flame, explosion, spitting of molten metal, fumes, exposure to high pressure gases. Damage to eyes and to any other part of the body, impaired breathing.		
Who might be harmed? All persons involved in the process and within the vicinity		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training The process of setting up and handling brazing equipment and supervision of pupils shall only be undertaken by competent persons. Pupil users will be instructed and trained in the use of, and possible dangers associated with, the process and specific equipment. Pupils will be trained in the selection and use of personal protective equipment.</p> <p>Procedures Pupils shall only undertake the operation under supervision A procedure shall be in place for visual recognition and recording of faults and defects in the equipment. A procedure shall be in place for the recognition and monitoring of dangers associated with, backfires, blowbacks, leaking components, overheating cylinders etc. Safe working limits of the equipment shall be recognised and recorded. Safe working practices shall be recognised and recorded, e.g. position of operator to the equipment, tidiness, use of personal protective equipment. COSHH assessment of the materials normally brazed and fluxes used shall be available. Procedures for monitoring the safety of gas supplies will be maintained. Procedures for monitoring the safe storage of bottled gas supplies in well ventilated areas, at ground level and not near drains or cellars will be maintained. Fume extraction shall be in place, monitored for effectiveness and used during all stages of the process. Consideration will be given to lone working.</p> <p>Environment Suitable and sufficient arrangements will be put in place to isolate energy sources. Emergency procedures shall be posted. Working area will be set out and marked either by a fixed barrier, screen or floor marking. An appropriate brazing bench will be provided. Appropriate flooring, non slip and capable of withstanding contact with very hot items.</p> <p>Maintenance All equipment will be regularly serviced</p> <p>Personal Protective Equipment All users and observers shall be provided with appropriate personal</p>		

<p>protective equipment. Appropriate cleaning and hygiene measures to be applied to all personal protective equipment. Long hair will be tied back. Relevant jewellery removed.</p> <p>Monitoring Pupil competency is regularly monitored. A procedure shall be in place for the monitoring of health hazards associated with toxic fumes. Monitoring the regular inspection of the installation by authorised contractors shall be undertaken. A procedure shall be in place for the checking and monitoring of controls, safety devices and condition of hoses. Safe management procedure shall be written and provided for appropriate staff to read and sign</p>	
<p>Further action required:</p> <p>Physical injuries caused by abuse, misuse or poor maintenance of the equipment.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

RM8Continued

RISK ASSESSMENT Using Hand or Power Operated Guillotines to cut metal, trim wood or cut paper and card in bulk		Risk Assessment no. RM9
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Guillotines provide a quick and effective way of cutting a variety of materials. Machines can be powered by hand, foot or electricity.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Physical injuries caused by abuse, misuse or poor maintenance of the equipment.		
Who might be harmed? Any person using the equipment and people in the vicinity of the operation.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training All pupils will be fully instructed in the safe use of guillotines (as appropriate)</p> <p>Procedures All metal cutting guillotines, wood trimmer guillotines and large lever arm or treadle operated card and paper guillotines will be securely locked when not in use. Only one person at a time will be allowed to operate a guillotine. Any 'lone' working will be carefully monitored.</p> <p>Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Guards and safety devices supplied with the equipment will be used at all times. Any failure of the guarding or safety devices will render the equipment unusable.</p> <p>Environment Sharp off-cuts will be safely placed in an appropriate bin or container prior to disposal.</p> <p>Maintenance All guillotines will be regularly serviced and maintained.</p> <p>Personal Protective Equipment Gloves will be provided when handling sharp materials Long hair will be tied back. Relevant jewellery removed.</p> <p>Monitoring The use of guillotines will be strictly controlled and monitored. The competence of all people using equipment will be strictly monitored. A schedule for repair and maintenance monitoring will be kept up to date.</p>		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Horizontal and Vertical Milling machines		RM10
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Shaping material by mechanical means.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with the cutting tool, flying waste material, entanglement from loose clothing Contact with cutting fluids and coolants. A significant increase to the risk is when guards are inadequate or not properly maintained.		
Who might be harmed? The machine operator or persons in the vicinity of the cutting operation		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training Pupil users instructed and trained in the use of, and possible dangers associated with the milling process and the machines, cutting tools etc. Pupils will be trained in the selection and use of personal protective equipment. Procedures The machine shall only be used by trained personnel and pupils under supervision The machine shall not to be operated by a pupil without teacher or technician checking the mounting of cutter, work mounting and clamping, guarding, machine speeds and feeds, use of appropriate coolant. The machine shall not be considered functional without a separate isolator and clearly marked stop/start button. Machines will be equipped with a 'no-volt' release control. Safe working limits shall be recognised and recorded e.g. size and selection of materials, speeds, types of materials. COSHH assessments of any potentially hazardous material including coolants and cutting fluids will be completed and made available. Consideration will be given to 'lone' working Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Safe adequate guarding will be used at all times. These will include suitably adjusted cutter block and full table guards. Environment The machine shall be sited away from: the distraction of people passing by; where non users are at a safe distance from rotating cutters and flying swarf; where there is space for safe operation; where access to and from the machine is unhindered. A non-slip floor capable of coping with spillages of cutting fluids will be provided around the machine. Swarf shall be deposited in a 'sharps' container. Maintenance Regular machine maintenance as recommended by manufacturer, and a schedule of monitoring shall be in place. Personal Protective Equipment All users shall be provided with appropriate personal protective		

<p>equipment, goggles to BS 2092(1) Long hair will be tied back. Relevant jewellery removed. Loose clothing will either be removed or covered with an apron or overall.</p> <p>Monitoring A schedule for repair and maintenance monitoring will be kept up to date. The competence of pupils using equipment will be strictly monitored. Safe management procedures shall be written and provided for appropriate staff to read</p>	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

RM10 Continued

RISK ASSESSMENT Oxy-Acetylene Welding/Brazing and Cutting, Electric Arc/MIG Welding		Risk Assessment no. RM11
Unit/location: Resistant Materials (Metal)		
Assessors names:		
Activity, process or procedure: Heating, joining and cutting of metals using an oxy-acetylene torch and electric welding equipment		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with hot surfaces, flame, explosion, spitting of molten metal, exposure to intense light, fumes, exposure to high pressure gases. Damage to eyes and to other parts of the body, impaired breathing..		
Who might be harmed? All persons involved in the process and within the vicinity.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training The process of setting up and handling equipment for welding and supervision of pupils shall only be undertaken by persons who have successfully completed an approved and certificated training course. Pupil users will be instructed and trained in the use of, and possible dangers associated with, the processes and specific equipment. Pupils will be trained in the selection and use of personal protective equipment. Procedures Pupils shall only undertake the use of welding equipment under close supervision. A competent person list (Staff) will be posted. A procedure shall be in place for visual recognition and recording of faults and defects in the equipment. Suitable and sufficient arrangements will be put in place to isolate energy sources. The electricity supply to electric welding equipment will be provided with a lockable isolator. A procedure shall be in place for the recognition and monitoring of dangers associated with fire, overheating cylinders, backfires, blowbacks, leaking components, excess oxygen in the atmosphere, explosive risks of acetylene, oil and grease in contact with oxygen, copper in acetylene lines, electricity. Safe working limits of the equipment shall be recognised and recorded. Safe working practices shall be recognised and recorded, e.g. precautions used when using cutting equipment, welding enclosed vessels, position of operator to the equipment, tidiness, use of personal protective equipment. COSHH assessment of the materials normally welded/brazed and fluxes used shall be available. Procedure and monitoring of the safe storing, handling, transporting of equipment and energy source shall be posted. Fume extraction shall be in place, monitored for effectiveness and used during all stages of the process. Consideration shall be given to 'lone' working. Environment Emergency procedures and other safety notices shall be posted.		

<p>The electric welding area will be shielded with appropriate screens. Working area will be set out and marked either by a fixed barrier, screen or floor marking. An appropriate welding/brazing bench will be provided. Appropriate non-slip flooring capable of withstanding contact with very hot items will be provided. Offcuts shall be deposited in a 'sharps' container.</p> <p>Maintenance All equipment will be subject to regular visual checks by a competent person and full annual safety inspection by an approved contractor.</p> <p>Personal Protective Equipment All users and observers shall be provided with appropriate personal protective equipment for face, body and eyes to BS 1542, Appropriate cleaning and hygiene measures to be applied to all personal protective equipment. Long hair will be tied back. Relevant jewellery removed.</p> <p>Monitoring Pupil competency will be regularly monitored. A procedure shall be in place for monitoring of health hazards associated with toxic fumes. Monitoring the regular inspection of the installation by authorised contractors shall be undertaken. A procedure shall be in place for the checking and monitoring of controls and safety devices, setting single and multi stage pressure regulators, current settings on welding transformers, selection and fitting of nozzles, flashback arrestors, non-return valves, gas economisers, cables and condition of hoses. Safe management procedures shall be written and provided for appropriate staff to read</p>	
<p>Further action required:</p> <p>Training on a certificated and approved safety training course will be provided for all staff using or supervising the use of welding equipment and process. Specific First Aid and fire training procedures will be assessed and monitored. Oxygen and Acetylene will be stored in separate purpose built locked stores with external access. No other materials or gases will be stored in either of these stores. Stores will be identified by safety notice - 'HIGHLY FLAMMABLE' Portable systems will be locked away, when not in use, in a suitable vented storeroom. All gas piping, regulators etc. will be capable of withstanding increased bottle pressures as specified by gas supplier.</p> <p>Safe working techniques will be established to ensure that the strength of the weld is adequate for the intended purpose.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

RM11 Continued

RISK ASSESSMENT		Risk Assessment no.
Conversion of timber on Planer or Planer-Thickneser		RM12
Unit/location: Resistant Materials (Wood)		
Assessors names:		
Activity, process or procedure: Preparing timber from stock or random sizes into workable sections.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with the rotating cutting block. Entanglement The danger of material being thrown back, dust and noise problems. Unpredictable nature of some timbers - knots, shakes etc. A significant increase to the risk is when a machine is sited in an area which is accessible to people other than the operator or the space is confined and difficult to access.		
Who might be harmed? The machine operator or persons in the vicinity of the planing of timber.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training The machine shall only be used by persons who have successfully completed a recognised and certificated machine training safety course. Procedures A list of all qualified users shall be posted alongside the machine. The machine shall not to be considered functional without an isolator, key switch and stop/start button. Emergency stop buttons shall be within the vicinity. Machines will be equipped with a 'no-volt' release. Safe working procedures shall be recognised and recorded. These include: <ul style="list-style-type: none"> • danger from exposing cutter block when fence moved/removed; • keeping gap between table lips and knives no more than 3 mm; • function of roller guard; • danger from under sized stock being thrown back from the cutters; • use of push sticks and holding jigs. Before commencement of the operation all material shall be closely inspected for defects, interlocked or twisted grain, severe or loose knots, foreign bodies. If any of these are found then the material will not be machined. COSHH assessment of some potentially hazardous materials (hardwoods) that are likely to be cut should be undertaken and made available. Dust extraction shall be in place, used and regularly checked for efficient operation. The machine shall not to be operated when operator is isolated or alone.		
Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. The machine shall not to be operated without bridge guard set and in place and/or guard for flattening and edging also in place.		
Environment The machine shall be housed in a separate room, away from distraction of people passing by, where non users are not exposed to material which may be thrown, where there is space for various sections to be passed through efficiently, where access to and from the machine is unhindered.		

<p>Working area of use to be set out and marked either by fixed barrier or floor marking .</p> <p>Appropriate non slip flooring, and cleaning regime shall be implemented & monitored.</p> <p>Maintenance</p> <p>The machine will be regularly maintained according to the manufacturers instructions and a maintenance schedule kept and monitored.</p> <p>Personal Protective Equipment</p> <p>All users shall be provided with appropriate personal protective equipment, goggles, face mask to BS2092 (1) or (2), ear defenders to BS EN 352 (1) or (2)</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Any loose clothing will either be removed or covered by apron or overall</p> <p>Monitoring</p> <p>Inspection of the Dust Extraction system will be undertaken every 14 months.</p> <p>Safe management procedure shall be written and provided for appropriate staff to read and sign.</p> <p>A current list of competent users will be prominently posted.</p>	
<p>Further action required:</p> <p>Training on a certificated and approved machine safety course will be provided for all persons who use this machine.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

RM12 Continued

RISK ASSESSMENT		Risk Assessment no.
Using Small Sharp Edged and Pointed Hand tools		RM13
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Cutting and shaping a variety of materials with small hand tools and utensils e.g. knives, chisels, hand saws, planes, scissors, files, cutters.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with the cutting edge, sharp pointed end of tools or trapped skin in tool mechanism.		
Who might be harmed? The operator and in some circumstances people in the vicinity		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training Pupil users shall be instructed and trained in the use of the equipment and possible dangers associated with specific parts of the equipment (graters, scribes, file tangs) and precautions which must be observed, e.g. cutting away from the body, dangers from exposed file tangs. Procedures These items shall only be used by pupils under general supervision after training and observation. Sharp equipment will be stored in such a way that it will be obvious, at the end of the session, if any items have not been returned for safe storage. Sharp equipment will be housed in such a way that it does not present a possible risk while selecting or picking up the item. Appropriate cleaning/hygiene measures to be applied to all equipment. Maintenance Maintenance programme for recognition of faults, defects and sharpening. Monitoring Monitoring procedures shall be used for the distribution, use and collecting in of equipment. Pupil training will be given and competency monitored.		
Further action required:		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Thermoforming Plastic Materials		RM14
Unit/location: Resistant Materials (Plastics)		
Assessors names:		
Activity, process or procedure: Thermoplastic materials can be shaped using simple heating elements and ovens. Vacuum forming and blow moulding allow the production of complex three dimensional forms from sheet material. Injection moulding provides the opportunity to produce high definition mouldings from granulated material.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Burns form exposure to heating elements and associated parts of the equipment and formed materials. As with all electrical equipment, electric shock also poses a significant risk. Injection moulding creates hazards associated with components under pressure. The siting of portable equipment should not interfere with access or egress or connecting leads create a trip hazard.		
Who might be harmed? Any person using the equipment and in the vicinity of the process.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training All pupils will be trained in the safe use of all equipment and associated processes.</p> <p>Procedures Staff will ensure the safety of a particular operation before pupils, working without direct supervision, use the equipment and materials. Depending upon the process and in order to minimise exposure to hot surfaces or heating elements materials should either be of a sufficient size to ensure that the operator's hands are out of the danger zone or suitable and sufficient personal protective equipment will be provided and its use monitored. All portable electrical equipment will be subject to Portable Appliance Testing (PAT) by a competent person. COSHH assessments will be completed as appropriate (see adhesives).</p> <p>Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. Machines will only be operated with secure guarding in place.</p> <p>Environment Care will be taken to ensure that hot materials do not pose a risk to those people not directly involved in the particular process. Care will be taken to ensure that any trailing leads do not pose a trip hazard. Portable equipment will not be sited in such a way that it affects access or egress.</p> <p>Maintenance All equipment will be regularly serviced and maintained.</p> <p>Personal Protective Equipment People involved in blow moulding should be provided with appropriate personal protective equipment, including goggles to BS 2092 (1). Long hair will be tied back. Relevant jewellery removed.</p> <p>Monitoring First aid procedures will be established to deal with burns. The competence of pupils using equipment will be strictly monitored.</p>		

Further action required: Particular attention will be given to temperature control. Receiver type compressors will be subject to regularly pressure checks (3 yearly)	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

RM14 Continued

RISK ASSESSMENT		Risk Assessment no.
Sand Casting of Non-ferrous Metals		RM15
Unit/location: Construction Materials (Metal)		
Assessors names:		
Activity, process or procedure: Heating of metals and the handling of molten metal.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Contact with hot surfaces, spillage, spitting and splashing of molten metal, fumes, explosion. Lifting and handling materials		
Who might be harmed? All persons involved in the process and within the immediate vicinity.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training This process will only be undertaken by staff who have successfully completed an approved and certificated training course. Procedures A list of authorised users will be posted. Procedures will be put in place for checking and monitoring controls and safety devices including molten metal temperature. Safe working limits of equipment shall be recognised and recorded e.g. safe capacity and type of crucible Safe working practices shall be recognised and recorded, e.g. care of the furnace and equipment, pre-heating of equipment, ensuring that ingots, scrap and equipment to be introduced into the crucible are dry. Procedure for testing for the correct moisture content of sand, including the sand pouring bed. The casting boxes will be placed in a sand filled pouring bed before being poured. COSHH assessment of degassing process, sand binders and chemical parting powder. Procedure and monitoring of the safe storing, handling, transporting of equipment while cold and hot. Fume extraction shall be in place, used throughout the heating and pouring process, and checked to ensure effective operation. The process shall never be attempted when the operator is isolated or alone. Guarding All guards forming part of the crucible or furnace will be in place throughout the melting process. Environment The operation will be separated away from people passing by and where non users are at a safe distance from possible splashes of molten material. Working area of use to be set out and marked either by a fixed barrier or floor marking Safe management procedure shall be written and posted. A sand filled pouring bed, presenting a minimum trip hazard, will be provided to retain any spillage of molten metal. Maintenance Procedure for visual recognition and recording of faults and defects in the equipment. Regularly checking of crucibles for cracks. Personal Protective Equipment Staff in charge of the crucible and involved in the pouring process:-		

Provision of appropriate personal protective equipment for eyes, face, BS 2092 (M), respirator to current European standards, and legs, feet, hands and body BS4676. Persons in the vicinity, at a safe distance from the casting operation:- Provision of appropriate personal protective equipment for eyes, face, BS 2092 (M). Monitoring Recognition of need for supervision of crucible during heating process. Safe management procedures shall be written and provided for appropriate staff to read	
Further action required: Training will be provided for those teachers who may need to the management of this process as part of their teaching commitment.	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

RM15 Continued

RISK ASSESSMENT		Risk Assessment no.
Using a Wood Turning Lathe		RM16
Unit/location: Resistant Materials (Wood)		
Assessors names:		
Activity, process or procedure: Turning timber to produce smooth, cylindrical and curved profiles		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Cutting tool snatching, disintegration of defective materials, dust problems, flying splinters. Unpredictable nature of some timbers - knots, twisted grain. Entanglement.		
Who might be harmed? The machine operator or persons in the vicinity of the turning operation		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training The equipment shall only be used by trained persons and pupils under supervision. Pupil users shall be instructed and trained in the use of and possible dangers associated with the operation and specific parts of the machine.</p> <p>Procedures The equipment should not be operated by pupils without a teacher or technician checking the positioning of tool rest, choice of cutting tool, work mounting procedure and machine speed. Safe working procedures shall be recognised and recorded e.g. size & section of material, speeds, type of material. Laminated work will not be turned. Inspection of materials shall be undertaken before commencement of operation for defects, splits, twisted grain etc. The machine shall not be considered to be functional without an isolator, clearly marked stop/ start button and interlocked micro-switch on drive belt mechanism cover. COSHH assessment of materials to be turned should be undertaken and made available. Safe management procedure shall be written and posted (Stop, start and emergency stop). Fixed machines will be equipped with a 'no-volt' release. Dust extraction, if available, shall be used. The machine shall not be operated when operator is isolated or alone.</p> <p>Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations.</p> <p>Environment The machine shall be sited away from distraction of people passing by: where non users are at a safe distance from flying splinters; where there is space for safe operation; where access to the machine is unhindered. Working area of use shall be set out and marked either by fixed barrier or floor marking. Non-slip flooring.</p> <p>Maintenance Regular maintenance of bed, tool rest, mounting bolts, chucks and collets shall be undertaken.</p> <p>Personal Protective Equipment All users shall be provided with appropriate personal protective</p>		

<p>equipment, goggles, face mask, to BS 2092 (2), dust masks to BS2091(complete with appropriate filters). Long hair will be tied back. Relevant jewellery removed. Loose clothing will either be removed or covered by apron or overall.</p> <p>Monitoring Pupil competency shall be monitored. Inspection of the Dust Extraction system will be undertaken every 14 months. Safe management procedure shall be written and provided for appropriate staff to read.</p>	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

RM16 Continued

RISK ASSESSMENT		Risk Assessment no.
Paint Spraying		RM17
Unit/location: Resistant Materials		
Assessors names:		
Activity, process or procedure: Spraying paints and varnishes on completed coursework.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Inhalation of fumes, vapours and dust particles leading to respiratory problems, fire, contact with chemicals Work with pressurized containers		
Who might be harmed? The person directly involved with the spraying operation, others in the vicinity and affected by a contaminated atmosphere.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training All pupils will be trained in the safe use of all spraying equipment. Procedures Spraying will only take place if adequate ventilation is available. Spraying within the department will require a suitably ventilated spray booth of adequate size to cope with the task in hand. Wherever possible non-toxic, non-flammable finishes will be used. COSHH data will be made readily available for all finishes in current use. Appropriate precautions and controls identified in COSHH data will adhered to at all times. Only the pupil directly involved in the spraying operation shall be allowed in the spray booth area. All pressurized systems will be of a design which can be adequately controlled by the user of the system. The use of 'Spray Cans' will be strictly controlled and only allowed if adequate exhaust ventilation is available. At no time will sources of ignition be permitted in the spraying area or adjacent work spaces. Staff will ensure that the spraying operation is appropriately supervised. Environment The spray booth should exhaust to the outside through a cowl of a design and location that will prevent exhausted air re-entering the workshop environment or other parts of the school. Maintenance The ventilation system will be annually checked. The filter system will be checked regularly to prevent clogging Any pressurized part of the spray equipment will be regularly serviced. Receiver type compressors will be professional checked at regular intervals depending upon usage (3-5 years) Personal Protective Equipment Face masks and full face respirators, fitted with appropriate filters, will be worn by all people involved directly in the spraying operation.		
Further action required:		
Appropriate facilities will be made available for the collection and disposal of waste products, some of which could be highly flammable.		
Signed (Assessor) date		
Signed (Assessor) review date		

Distribution:

RM17 Continued

RISK ASSESSMENT		Risk Assessment no.
Using Portable Powered Equipment		GE1
Unit/location: All Materials		
Assessors names:		
Activity, process or procedure: Working with a variety of materials using portable equipment e.g. soldering iron, drill, jig saw, food mixer, air brush, electric iron, strip heater, glue gun, portable power supply.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
<p>Hazard: Serious injury through the operator making contact with cutting edges/blades, electric shock, trips from trailing leads, burns, entanglement, food poisoning from contamination, toxic fumes, embolisms from the misuse of high pressure hoses. Hearing damage if prolonged use of certain items.</p> <p>A significant increase to the risk is when guards are inadequate or incorrectly set and safety procedures are not adhered to because of a perceived insignificant risk in using small items of equipment.</p>		
Who might be harmed? The operator and people in the vicinity		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training Pupils to be instructed , trained in the use of, and possible dangers associated with specific equipment as well as precautions which must be observed. Pupils will be trained in the selection and use of personal protective equipment.</p> <p>Procedures Certain equipment, as identified, will only be used by trained personnel and pupils under supervision. Monitoring programme for the signing out, distribution, use and collecting in of equipment will be established. Procedures for visual recognition and identification of faults and defects in equipment e.g. burns and cuts on electrical leads, guards damaged or removed will be established. All portable electrical equipment will be subject to Portable Appliance Testing (PAT) by a competent person. Safe management procedures will be posted. All mains electricity plugs on portable equipment will be to BS 1363. Work will be adequately supported at all times.</p> <p>Guarding Guarding for all machines will be in accordance with 1992 Work Equipment Regulations. All guards, as supplied, will be used at all times. Pressurised air lines shall be fitted with appropriate couplings to prevent 'free' escape of air.</p> <p>Environment Equipment shall not be sited in such a way that it affects access or egress. Where necessary, equipment shall be sited near ventilation or dust extraction. Care will be taken to ensure that any trailing leads do not pose a trip hazard.</p> <p>Work areas will be kept clear and tidy in order to avoid power cables being hidden and subsequently damaged.</p> <p>Maintenance</p>		

<p>All equipment will be regularly maintained in line with the manufacturers recommendations.</p> <p>Personal Protective Equipment</p> <p>Provision, where relevant, of appropriate personal protective equipment for eyes, face, body, breathing, ears for those involved in a processes and others in the vicinity.</p> <p>Appropriate cleaning and hygiene measures to be applied to all personal protective equipment.</p> <p>Long hair will be tied back. Relevant jewellery removed.</p> <p>Monitoring</p> <p>Pupil competency is regularly monitored.</p> <p>A schedule for repair and maintenance monitoring will be kept up to date.</p>	
<p>Further action required:</p> <p>Air receivers shall comply with BS 5169. These will be regularly tested by a competent authority. The Safe Working Pressure will be plainly marked on the receiver.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	

GE1 Continued

RISK ASSESSMENT Joining materials using Adhesives supplied in either liquid, powder or aerosol form		Risk Assessment no. GE2
Unit/location: All materials		
Assessors names:		
Activity, process or procedure: Adhesives have been developed to allow strong permanent joints to be made in a range of materials including most plastics, woods and metals. Many of these adhesives are synthetic and require careful preparation and use.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Many adhesives contain toxic chemicals. Certain types of adhesives, those which are solvent based, are highly flammable. Solvent abuse presents a further hazard.		
Who might be harmed? Any person using the adhesive for the purpose of joining materials together, people in the vicinity exposed to solvent fumes. People sniffing the solvent with the prime intention to affect their physical and mental state.		
What is the level of risk ? Whilst the correct selection and appropriate use of adhesives pose a low risk, the misuse or abuse of adhesives can present a serious hazard to the health.	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Training All pupils will be trained in the safe use of specified adhesives. Pupils will be trained in the selection and use of personal protective equipment Procedures Access to adhesives will be strictly monitored and controlled. This will require certain adhesives to be kept in a locked cabinet. COSHH data will always be readily available whenever adhesives are being used. Anaerobic adhesives ('Superglues') will not be available for use by pupils. Environment Those adhesives giving off a vapour (including 'Spraymount') will only be used if proper ventilation is available and no naked flames are present. Personal Protective Equipment Where identified suitable and sufficient personal protective equipment will be provided. Goggles to BS2092(C) Monitoring As defined by COSHH assessment certain adhesives will require the competency of pupils to be monitored Suitable and sufficient arrangements will be made in terms of first aid.		
Further action required: Wherever possible only those adhesives which are considered safe in terms of their chemical composition and effect on the environment will be used.		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Safe and Appropriate Storage of materials		GE3
Unit/location: All Materials		
Assessors names:		
Activity, process or procedure: The storage of materials presents a number of hazards. As well as consideration of the nature of the material, location, access and physical size and weight are also important factors.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
<p>Hazard: Flammability of the materials being stored. Inhalation of vapour concentrations from spillages of solvents leading to respiratory problems, dizziness, lack of co-ordination Access, which may require to be strictly controlled. Methods of storage to minimise possible injury from sudden movement. Size and weight of materials in connection with their movement from delivery bay to store and from store to point of use. Sharp edges and the ends of small section stock. COSHH and CHIP (Chemicals, Hazard Information and Packaging) can be used to identify storage requirements of high risk hazardous substances. Sudden movement of poorly supported materials.</p>		
Who might be harmed? Any person accessing, moving, collecting and returning materials. People in the vicinity where materials are being moved.		
<p>What is the level of risk ? Generally of moderate risk Certain flammable materials present a high risk. Changing conditions (wind effects between building on sheet materials) present an unquantifiable risk.</p>	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Procedures COSHH data will be readily available for all hazardous substances. CHIP information will be retained for reference. All flammable materials (50 litres maximum) will be stored in an appropriate containers (5 litres maximum) in a suitably constructed, lockable storeroom or fire-resisting cabinet or bin. The store will be clearly marked 'Highly Flammable' - 'No Smoking, No Naked Lights'. Access to the flammable store will be strictly controlled. Emergency procedures will be established to cope with fire, leaks or spillages. COSHH data and CHIP will be used to ensure all hazardous materials are correctly stored. Sheet, bar and plank materials will be supported by appropriate racking. Provision will be made to securely retain vertically racked materials. Board materials will be stored in such a way that it is impossible for a person to be trapped by falling boards whilst restocking or removing stock materials. Consideration will be given to the weight and shape of materials being moved to avoid manual handling injuries. Heavy items will be stored at low level in a convenient location.</p> <p>Environment Ends of small section materials will be protected. Suitable steps or well tied ladders will be used to gain access to any high level storage. All stores will be kept tidy.</p> <p>Personal Protective Equipment Gloves will be provided to protect against sharp edges, instances of</p>		

dermatitis and to ensure the best possible grip for slippery materials. Goggles to BS2092(C) will be provided where identified as necessary in COSHH assessment. Monitoring Thorough records will be kept of materials stored and materials disposed of	
Further action required: Waste materials and substances will be disposed of in line with Environmental Protection Act 1990.	
Signed (Assessor) date	
Signed (Assessor) review date	
Distribution:	

GE3 Continued

RISK ASSESSMENT		Risk Assessment no.
VDU Workstation Assessments		GE4
Unit/location: VDU Operation		
Assessors names:		
Activity, process or procedure: Reducing to acceptable levels any possible causes of injury, discomfort, fatigue and stress brought about by the use of VDU's. including consideration to all users (staff, pupils and others), the working environment, hardware and software and staff training.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Eyestrain, fatigue, stress and in extreme cases physical injury to elbows, wrists, hands and fingers.		
Who might be harmed? Any person using VDU equipment.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
Plan changes of activity to punctuate continuous use. All portable electrical equipment will be subject to Portable Appliance Testing (PAT) by a competent person. Environment Consideration of each workplace in terms of the electrical integrity of the whole workstation. Consideration of each workplace in terms of space, glare from windows, suitability of lighting, ventilation, heating, humidity and noise. Consideration of each work surface in terms of height, suitability, leg room, space to rest hands in front of keyboard and operation of the keyboard. Suitability of operator's chair in terms of comfort, stability and adjustable for height, tilt etc. Consideration of the display screen in terms of adjustability for height, tilt, swivel, reflections, anti-glare facility, character definition and screen image stability. All mains electricity plugs on equipment will be to BS 1363. All portable electrical equipment will be subject to Portable Appliance Testing (PAT) by a competent person. Personal Protective Equipment Footrests, wrist supports will be made available if required. Monitoring Records will be kept for all VDU workplace assessments.		
Further action required:		
React to health problems raised by operators including - headaches, sore eyes, back problems, and soreness of joints in hands.		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Workshop Supervision		GE5
Unit/location: All Departments		
Assessors names:		
Activity, process or procedure: Reducing to acceptable limits instances, and opportunities that could lead to injury.		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
Hazard: Accidents and unsafe systems of work which are a result of inadequate levels of teacher supervision.		
Who might be harmed? Pupils who are inadequately supervised and others in the vicinity who may be affected by their actions.		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training Staff should be adequately trained to supervise pupils using tools and equipment in a workshop. Staff will have either been initially trained or retrained in each of the material areas that they are asked to supervise pupils. Further 'refresher' training will be made available as required.</p> <p>Procedures Curriculum managers will ensure that staff can reasonably be expected to manage particular groups of pupils having taken account of the following</p> <ul style="list-style-type: none"> • teacher experience; • group size; • age of pupils; • pupils with special needs including behavioural problems; • type of activity; • workshop size, shape and arrangement of equipment; • safety systems within the workshop; • ancillary support. <p>Environment Pupils will only be allowed to work in parts of the workshop which can be visually supervised. This may mean that parts of the workshop will require to be declared 'out of bounds'.</p> <p>Personal Protective Equipment Adequate quantities of PPE will be available for all pupils.</p> <p>Monitoring The Head of Department will make random checks to ensure that pupils are being adequately supervised.</p>		
Further action required:		
There are no maximum figures officially published by the DFEE for group sizes in Design & Technology classes		
Signed (Assessor) date		
Signed (Assessor) review date		
Distribution:		

RISK ASSESSMENT		Risk Assessment no.
Pupils with Special Educational Needs		GE6
Unit/location:		
Assessors names:		
Activity, process or procedure: (note-assembling, operating or undertaking certain processes may pose potential and additional hazards for themselves or those in the vicinity).		
Further information:		
SITE or ACTIVITY ANALYSIS		
GENERIC COMMENTS	SPECIFIC COMMENTS	
<p>Hazard: (Note:Hazards will reflect the pupils disability, their perception of the task and the area of operations in which they may be functioning.</p> <p>The unpredictable nature of pupils with certain special needs is likely to be a significant factor in increasing the risk).</p> <p>Further information:</p>		
<p>Who might be harmed? (NOTE:The pupil(s) for whom the assessment is being made, persons in the immediate vicinity of the operation or process who may be assisting the pupil, others in the vicinity and, in the case of food products, persons eating contaminated food).</p> <p>Further Information:</p>		
What is the level of risk ?	HIGH / MEDIUM / LOW	
Is the risk adequately controlled?	YES/NO	
If NO can the activity, process or procedure be eliminated?	YES/NO	
If NO the following control measures may need to be considered and relevant information noted.		
CONTROL MEASURES		
<p>Training</p> <p>Staff will need to be appropriately trained in the safe use of equipment and processes involved as well as an ability to manage pupils with special needs.</p> <p>Procedures</p> <p>All staff will have access to the advice of professional advisers in the management of pupils with special needs.</p> <p>After review of an operation or situation the department maintains the right to deny access to a particular pupil if it is considered that the behaviour of the pupil places that pupil or others in the vicinity at risk.</p> <p>After review of an operation or situation the department maintains the right to deny access to a particular pupil if it is considered that the health or disability of the pupil places that pupil or others in the vicinity at risk.</p> <p>Additional teaching support will be requested as identified by the risk assessment and statement if appropriate.</p> <p>Ancillary support will be used fully and given appropriate training in order to minimise risks.</p> <p>In certain situations, before a pupil uses equipment or enters the work environment a contract will be agreed between the pupil, parent, advocate and school over accepted standards of behaviour.</p>		

<p>Where necessary 1:1 supervision will be maintained. Attention will be given to the use of special fittings, jigs and holding devices.</p> <p>Guarding</p> <p>Environment</p> <p>Notices and warning systems will be provided to cater for the wide range of special needs. Particular attention will be made towards ensuring the readability and clarity of signs and notices.</p> <p>All signs will conform to the 1996 Safety Signs and Signals Regulations.</p> <p>The working environment will be arranged in such a way to allow full access to pupils with physical disabilities.</p> <p>Maintenance</p> <p>Personal Protective Equipment</p> <p>Specific equipment will be provided on an individual basis.</p> <p>Monitoring</p>	
<p>Further action required:</p> <p>It is likely that pupils will require individual risk assessment completing for each identified activity.</p>	
<p>Signed (Assessor) date</p>	
<p>Signed (Assessor) review date</p>	
<p>Distribution:</p>	